ESCOP, ITS HISTORY AND INFLUENCE ON AGRICULTURAL RESEARCH 1/

(Preliminary Draft for Review by ESCOP, Covering the Period, 1905-42)

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1/ Presented by H. C. Knoblauch, Director, State Experiment Stations Division, Agricultural Research Service, before the fall meeting of the Experiment Station Committee on Organization and Policy, Washington, D. C., November 8, 1958.

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Last April the members of ESCOP expressed an interest in having the office prepare a brief summary that would outline ESCOP's origin and provide documentary highlights on the committee's contribution to research progress.

ESCOP has had a long, influential career. We can hardly undertake measuring the contribution unless we do so in the light of the total historical development that grew out of the two organic acts of 1862, the one of May 15 establishing what is now the Department of Agriculture, and the one of July 2 usually referred to as the Land-Grant Act.

Seeking Knowledge As Well As Teaching It

We must keep in mind that before the land-grant institutions came into being there was little higher education of a scientific nature. "Up to 1872 only six colleges in the country taught either chemistry or physics by the laboratory method," says E. D. Eddy. ". . . It remains for the land-grant colleges to assist in a development born of necessity rather than design."(1) "There was precious little quality in higher education a century ago," says Russell Thackrey, "unless quality be confused with rote learning. The idea, basic to quality, of the university as a place where knowledge is sought, owes as much to the establishment of the agricultural experiment stations of the land-grant institutions of this country, as to any other single factor." (2)

How this new concept of seeking knowledge as well as teaching it affected agriculture alone is shown in the fifth annual summary of farm statistics of farm production and efficiency. In 1880, the number of persons supported by one U. S. farm worker was 5.57 persons. In 1890, just after the Hatch Act had been signed and the experiment stations began getting into gear, it was 5.77 persons. From then on the table shows an almost steady advance until 1957 when one U. S. farm worker, according to preliminary figures, supported 23.55 persons--an all-time high. (3) Granting that there have been other influences than research that have contributed to the amazing growth of farm technology, we can still attribute, in the words of Sherman Johnson, this agricultural transformation "to a large extent to organized research conducted by both public and private agencies." (4) If we allow for the time lag between attainment of research results and their adoption in practice, it does not take much imagination to visualize the close and consistent relationship between State and national support given agricultural research and the advancement of farm technology through the years.

Nationwide System Matures

Born in the same year, the Federal Department of Agriculture and the land-grant colleges also grew up together. Confronted by a mutuality of problems, they matured together into a nationwide system of agricultural research and education.

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In January 1882 and 1883, Commissioner of Agriculture G. B. Loring invited officers of the agricultural colleges, experiment stations, boards of agriculture, and agricultural societies to meet in Washington, D. C. Again, in 1885, Commissioner N. J. Colman, who later became the first Secretary of Agriculture after the Department was raised to Cabinet level, called a convention of representatives of the agricultural colleges and experiment stations held in Washington. Out of these conferences grew organization of the movement that led to formation of the Association of American Agricultural Colleges and Experiment Stations in 1885, passage of the Hatch Experiment Station Act of 1887, and passage of the (second) Morrill Act of 1890, providing for further endowment of the land-grant colleges. The latter gave additional support to the struggling land-grant institutions, upon whom both the Department and the experiment stations had to rely for training agricultural scientists. (5)

Principle of Local Control

By the time the Hatch Act of 1887 went into gear, 27 States had actually established agricultural experiment stations that were supplying their land-grant colleges with scientific information on agriculture. (6) The Hatch Act set the pattern for establishing close, cooperative relations between the State agricultural experiment stations and the U. S. Department of Agriculture. These relationships are reflected, for example, in the fact that the official proceedings of the first 23 annual meetings were printed as Department of Agriculture publications.

What seems to have made this pattern of relationships successful through the years was acceptance of the principle of local control and responsibility. In the departmental appropriation for the fiscal year ending June 30, 1895, Congress directed the Secretary of Agriculture to "prescribe the form of the annual financial statement required by section three of the Hatch Act" and to "ascertain whether the expenditures under the appropriation hereby made are in accordance with the provisions of the said [Hatch] Act and shall make report thereon to Congress." The reasonability of this request is outlined logically in a lengthy policy statement discussed by Director A. C. True of the Office of Experiment Stations in his report for 1896. However, Dr. True re-emphasized that administration of the experiment stations would continue to follow "the principle of local control." He pointed out that "the principle of local control, with a view to meeting the varied needs of the different agricultural regions, is in harmony with our governmental and educational system and, in the long run, undoubtedly will produce best results. The responsibility resting upon the State and Territorial authorities to maintain these stations will lead to their development in the proportion to the interest taken in them by the people, and when once this interest is sufficiently awakened it will conduce to the building up of strong stations." (7) Dr. E. W. Allen who later became Director of the Office, commented regarding Dr. True's remarks: "Thus there came about in the years that followed a unique example of national administration, in which influence, rather than coercion is the policy." (8)

ESCOP Created in 1905

In the organizational development of the Association of American Agricultural Colleges and Experiment Stations, now known as the American Association of Land-Grant Colleges and State Universities, scientific research in agriculture and the policies that would promote it were of major concern. Initially, these matters were considered before the entire body of the Association. As the

land-grant institutions grew in scope and their interests expanded to cover many fields, various divisions and sections were created. The agricultural experiment stations had equal representation with the colleges in the annual meetings of the Association and in the earlier years in sections representing agriculture, chemistry, horticulture, botany, and entomology. In 1903, a section on experiment station work was substituted for the latter. (5) In other words, the Association continued--as it does to this day--to accept leadership responsibility in the formulation of policies affecting research in the scientific areas that pertained to agriculture. Without it doing so, especially in policy matters that cut across state lines, it would indeed be difficult to administer the Federal-grant programs under the liberal concept so ably described by Drs. True and Allen. So the section on experiment station work and its Experiment Station Committee on Organization and Policy--ESCOP--became the mechanism by which the Association was to keep its finger on the pulse of agricultural research programming and development. How successfully it has functioned during its 53 years can, to quite an extent, be measured by the agricultural progress referred to earlier.

ESCOP was legally and officially born as the result of a recommendation made by the Association's executive committee and adopted by the Association in 1905. Part of it said: "There shall be five standing committees of the organization, one on Experiment Station Organization and Policy." The previous convention had adopted the following resolution: "In order that Congress may be properly informed as to the work of the agricultural experiment stations and its great value to agricultural practice and to promote satisfactory relations between the Department of Agriculture and the experiment stations, the executive committee of this association is hereby instructed to request a hearing before the proper committees of Congress for the purpose of presenting the work and claims of the agricultural experiment stations, and to continue conferences with the honorable Secretary of Agriculture relative to cooperation between his Department and the stations." (9) In the 1905 proceedings we read also of the active part taken by the Association in supporting Congressman Henry Cullen Adams in his successful efforts to bring about passage of the Adams Act of March 16, 1906.

Adams Act and Original Research

Probably no piece of Federal legislation up to that time had been more specific in spelling out the requirement that research receiving Federal-grant support should be original in nature. The Adams fund was "to be applied only to paying the necessary expenses of conducting original researches or experiments bearing directly on the agricultural industry of the United States." Congressman Adams had for many years been a friend and neighbor of Dean and Director W. A. Henry of Wisconsin. A brief statement concerning the history of the inception and enactment of the Adams Act will be found in a memorial to Henry Cullen Adams beginning on p. 36 of the 1906 Proceedings. (10)

The experiment station directors, through resolutions and active collaboration with Congressman Adams, took a leading part in drafting the bill. Thus they insured for agriculture a policy that would put emphasis on quality research. They also helped set the pattern which today is receiving so much emphasis in many fields besides agriculture, namely that all Federally-sponsored research should support research that is directed toward the establishment of basic findings. As the Hatch Act put Federal emphasis on the concept of scientific research in agriculture and provided the model for Federal-State cooperation, so the Adams Act served as a model for emphasizing scientific quality in all Federally-supported research.

The period beginning with 1887, following passage of the Hatch Act, and 1906, when the Adams Act became law, was ably summarized by Director S. W. Fletcher of the Pennsylvania station during the 51st annual meeting of the Association in 1937:

> "During this period the Hatch Fund was the principal and, in a majority of states, practically the sole source of support of agricultural research. As late as 1903, Federal grants to fifty-two states under the Hatch Act amounted to $720,000, while State money, which was derived mainly from fees and sales, amounted to $702,237. In that year, twenty-seven of the fifty-two state stations received no direct state grants whatever, six received less than $1,000, and only eight received a sum equal to or in excess of the Hatch Fund. In many states, the stations were designated, quite appropriately, 'The Hatch Experiment Station.'
>
> "It was natural that most of the investigations of this period should have been empirical, rather than fundamental research. They were undertaken, for the most part, in response to the immediate practical needs of the farmer constituency. Field tests of varieties and of fertilizers, feeding trials, and other simple experimentation dominated the program. The Extension Service had not yet been organized. In many states there was no other agency from which farmers could secure information concerning their art. Much of the time of the personnel was devoted to the dissemination of information on approved practices, through correspondence, Farmers' Institutes, and demonstration trains, and to inspection and control services of various kinds, rather than to original research. There were the further handicaps of meager funds, inadequate equipment, lack of public support, and the insistent demands of the classroom. There was the still greater handicap of lack of well trained personnel." (8)

ESCOP's First Assignment

A special meeting of ESCOP was held on April 7, 1906, in Chicago to take up numerous problems of administration that had arisen in connection with availability of the Adams funds. Not too many rules had been laid down with regard to the use of Hatch funds. Since the fiscal year ending June 30, 1895, Congress had required filling out annual financial statements to satisfy proper use of the funds. But charges continued to be made that there was considerable dissipation of Hatch funds in the States in activities that had little relation to bona fide research.

With passage of the Adams Act, which underlined investigations of high scientific caliber, there was general agreement that some ground rules for the use of the Federal moneys in the States were needed. On March 20, 1906, Secretary of Agriculture James Wilson sent a letter to all Directors of the Agricultural Experiment Stations, outlining minimum Federal requirements with regard to Adams funds. (Attachment A.) This letter was the forerunner of the modern project system, as emphasized in the following paragraph:

> "In order that there be no doubt as to the disposal of the Adams fund, each station should outline a definite programme of experimental work to which it will devote this fund, and expenses for other work should not be charged to it. The work contemplated by this Act will,

> "as a rule, necessarily cover more than one year, and changes in the programme once adopted should not be made until the problems under investigation have been solved, or their solution definitely shown to be impracticable. This will give ample opportunity for making plans for winding up any particular piece of work and beginning another with such deliberation as will provide for the suitable and economical expenditure of this fund without resort to doubt for expedients and expenditures. It is much to be desired that this fund shall be a strong incentive in the careful choice of problems to be investigated, thorough and exhaustive work in their solution, and the securing of permanent and far-reaching results on which can be safely based demonstration and verification experiments leading to the general improvement of farm practice in many particulars."

In addition to discussion of the nature and character of research that could be undertaken by the stations within the scope of Secretary Wilson's letter, ESCOP's first meeting also considered numerous collateral administrative problems. These included how to prevent undue duplication between stations, how to avoid competition among the stations in seeking personnel that could be employed to carry on the research, and similar mutual policy problems. ESCOP's first report took over four printed pages of the Association's next proceedings, those of the 20th annual convention held at Baton Rouge, La., November 14-16, 1906. ESCOP's report to the Association that year included the following paragraph:

> "It is evidently the intention of the Adams Act to provide a means for carrying on investigations of a relatively high order with a view of discovering of principles and the solution of the more difficult and fundamental problems of agriculture. Investigations in connection with which there is good reason to expect the establishment of principles of broad application should be preferred to those which have only local or temporary importance or from which only superficial results are to be obtained." (10)

In December 1906, the Experiment Station Record carried the following editorial concerning the 20th Convention of the Association:

> "The chief center of interest was the Adams fund, its aims and limitations, and the general policy regarding its use.
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> "There was a broad discussion of the subject of research work, its relation to the other activities of the experiment stations and to the general public. At no previous meeting has there been so full and intelligent consideration of this subject and of the distinctive features of research and investigation. . .
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> "The broad field and duty of the experiment station as a scientific institution was emphasized--its relations to agricultural education and to the promotion of agriculture in a broad sense, as well as to the local needs of the farmer. The need of a definite policy for every station and adherence to its policy and programme of work was made evident, a need which is especially urgent at the present juncture.
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> "The report of the new standing committee on station organization and policy was received with special interest. This committee is made up of a representative body of station men, headed by Dean Davenport

"as chairman. It has held several meetings during the year and has given a careful and intelligent study to questions relating to the policy of the stations toward the Adams fund. Its conclusions are therefore entitled to much respect, and should have great weight in formulating the sentiment of the American stations." (11)

Growing Concept of Research Responsibility

A second major consideration given by ESCOP was that of publication and dissemination of research findings. In a letter dated February 25, 1909, Director True of the Office of Experiment Stations called the attention of station directors to a growing tendency to use Hatch funds for "printing, correspondence, administration and miscellaneous purposes connected with the general business of the stations, and this has materially reduced the amount used for carrying on definite experimental work." Dr. True attributed this to various causes, such as "the increase of State appropriations for the stations, which in many cases have taken the form of appropriations for special investigations, demonstrations, or substations, without provision for printing or the general administrative business of the station." He urged that "each station shall, as far as may be necessary, change its policy of expenditure of the Hatch fund so as to devote a large share of that fund to definite experimental work, restrict the expenditures for printing as indicated above, and put administrative and miscellaneous expenses as far as possible on other funds." (Attachment B).

In reading Dr. True's letter, it should be kept in mind that no Federal authorization for extension work had been enacted and that many institutions considered liberal use of Hatch moneys for printing and demonstration work a part of the experiment station's responsibility. The Association by this time had a standing committee on extension work out of whose deliberations later came the Smith-Lever Act of 1914. ESCOP had for 3 years collected data as to the methods of disseminating research results. ESCOP's recommendations at the 23d Annual Convention, held in Portland, Oregon, August 18-20, 1909, dealt almost entirely with dissemination of information by experiment stations, publications and their classification into numerous categories. They take up two full printed pages. They were presented in 2 sections, one having reference primarily to station publications, the other urging a common publication medium of station research.(12)

The importance attached to publications and informational activities was again emphasized at the 26th annual convention when the Experiment Station Section devoted an entire afternoon to these and related activities. By this time most of the experiment stations had become involved in a considerable amount of demonstration work. In the papers and discussion on dissemination which took place on the afternoon of November 15, 1912, some guidelines were established, including the one that experiment stations had a responsibility for issuing two general classes of publication, technical and popular. (13)

ESCOP's Definition of Experiment Station--A Research Institution

Not only with respect to dissemination of information, but also in farm demonstration and regulatory activities pertaining to agriculture, the experiment stations were getting an increasing load of assignments. As these increased and as farmers were becoming more and more science-conscious, the annual conventions of the Association spent much time discussing the non-research activities

of the experiment stations. At its 27th annual convention in 1913, the Association adopted a recommendation made by ESCOP "That a committee of three to cooperate with a committee of three from the Department of Agriculture be appointed, to be known as the committee on projects. . ." In the same session, also, the first Joint Committee on Publication Research was approved. (14) By the time of the 1914 convention, the Smith-Lever Act had been passed. The Joint Committee on Projects and Correlation announced that it had undertaken a survey of "work done under the various appropriations of Congress to the United States Department of Agriculture and the state agricultural colleges and experiment stations." Requests had been sent to the member institutions "that information regarding their investigational, extension, and regulatory work be furnished." (15) One outgrowth of this committee's deliberations was establishment in the Department of Agriculture of the States Relations Service. From July 6, 1915, to June 30, 1923, this Service included the Office of Experiment Stations, the Office of Extension Work in the South, the Office of Extension Work in the North and West, and the Office of Home Economics.

At the 1915 convention held in Berkeley, Calif., ESCOP's report dealt at length with the functions of the experiment stations in regulatory activities. "The fundamental idea upon which all our experiment stations rest is that of service to agriculture in acquiring accurate information, in place of tradition, conjecture, and empirical theory," said ESCOP.

> "They were a direct response to the need for knowledge resting on a reliable scientific basis, in order to make teaching sound and agriculture a more intelligent art. They represented the introduction of the experimental method in testing experience and theory and securing reliable facts and principles in agriculture. They were to be stations for experiment. . . . Through the years the experiment stations had to take on a good many service activities that were not research. . . . The extension work, which is a direct development of experiment station work and was born of its practical results and the public confidence won through it, has for some time been recognized as illogically grouped under the station and has been split off as a separate division or department. State laws have been modified to permit the new organization. . . . In addition to the three divisions of the agricultural college which we have begun to recognize in research, college teaching, and extension, we now recognize at least one other group which has to do with regulation--the machinery for the enforcement of laws for the protection and promotion of agriculture. . . . The retention of such measures by the agricultural colleges is retarding the formation of strong state departments of agriculture, which it is the interest of the colleges to promote."

The Association accepted ESCOP's strong recommendation that the various regulatory activities inherited by agricultural colleges should be separated and transferred to departments of agriculture. The report contains the following paragraph, a classic when we think of it in terms of policy in station administration:

> "The experiment station has justified research in agriculture. It should be able to justify its own maintenance as a research institution. It is believed that at this time we may propagate to advantage to the whole agricultural system the conception of the experiment

"station as a research institution--one for discovering, verifying, and establishing the practical bearings of scientific facts and principles in agriculture." (16)

Joint Committee on Projects and Correlation

The Joint Committee on Projects and Correlation, created by the Association in 1913, filed a report in 1916. This was primarily a restatement of the need and purpose of the committee and a statement of objectives to the effect that greater efficiency, system, and correlation of "investigative projects planned with a view of solving the same or similar problems" was in the interest of publicly-supported research. (17) (See also Attachment C.)

National and world events that ensued in the years immediately following were to overshadow considerations of "project correlation." Nevertheless, from a historical standpoint, the deliberations of this joint committee were the first major Association effort aimed at establishing principles and in developing mutually acceptable standards relating to the essentials of project outlines in experiment station research. Out of the benchmarks established by this committee also grew later some of the principles and agreed-upon rules that now govern the regional research program.

System Tested by World War I

By the time of the Association's next annual conference, held in Washington, D. C., November 14-16, 1917, the Nation was involved in the 1st World War. Scientific agriculture organized under the USDA--Land-Grant College System was to meet its first real test. The emphasis, as later in the 2d World War, was on production more so than on research. This meant drawing on the reserve of scientific know-how accumulated in previous research.

ESCOP's 1917 report dealt primarily with "Publishing the Work of the Experiment Stations." Six pages in the proceedings were devoted to it, providing further guidelines for station publication policy. The closely cooperative agricultural and home economics extension services of the parent institutions, recognized nationally in the Smith-Lever Act of 1914, authorizing Federal support, had been given the green light for assuming leadership in the production program under the stimulating nationwide slogan, "Food Will Win the War." ESCOP's report urged that "the stations ought frankly to accept the fact that their present field and functions are agricultural investigation and experiment--the discovering and verifying of exact information pertaining to agricultural science and practice, and this view ought to be clearly reflected in their publications. Their success lies in that direction, for they cannot hope to compete with the extension departments now organized in a large way with steadily increasing funds. These on the other hand must rely upon the stations very largely for the matter they attempt to teach and demonstrate, while the stations can secure through their cooperation the desired contact with the public and can effectively place their practical results and recommendations before the farmers. Manifestly, the stations should not be wholly cut off from contact with the agricultural industry, and it is proper and just that to them should be accorded credit for the matter given out through extension channels, so that the public may not lose sight of the practical character of their work and may know the important part they are playing." (18)

ESCOP Shoulders Greater Responsibilities

The last and final annual convention of the American Association of Agricultural Colleges and Experiment Stations was the 33d, held in Chicago, Ill., on November 12-14, 1919. At that meeting the Association adopted a revised constitution which included changing the name to the Association of Land-Grant Colleges. This change had become inevitable with the tremendous enlargement of responsibilities and activities of the land-grant system. By now the institutions had established recognition for their great leadership in three accepted divisions, research, teaching, and extension work in agriculture. In addition, since many of the member institutions were also the State universities, they had many other responsibilities for intellectual leadership and service to the people of their States. Although the words "experiment stations" were logically dropped from the Association name, the experiment stations could look back with considerable satisfaction to the contributions they had made. Since 1885, they had provided much of the vision and constructive leadership responsible for the early vigor and health of the land-grant system as a historic new concept in higher education. Nor was the influence of the stations to be lessened in that the experiment station would continue to carry equal weight as members of the Section of Agriculture established by the Association. The constitutional changes, in fact, were to place even greater responsibilities on ESCOP.

In line with pressing needs envisioned by the experiment station leaders, a number of statements were presented during the 33d convention. An entire evening session of the Association was devoted to two important papers that were to have a bearing on scientific research at the agricultural experiment stations for many years to come. The first was by Director W. J. Jordan of the New York Agricultural Experiment Station (Geneva). It dealt with the broad subject of institutional ethics. Although discussing the ethical obligations of the member institutions as a whole,

We may also look to the 33d annual convention as a further milestone in the concept of coordination and development of experiment station project outlines. The Committee on Projects and Correlation, in a 5-page report, suggested that there be organized within the Department of Agriculture an office "which will exercise the same function with reference to research projects that the States Relations Service now exercises in all extension projects." The committee made the specific recommendation that the Association's Executive Committee should confer with the Secretary of Agriculture "with a view of providing for the organization of an Agricultural Research Council, which, when organized, should in its personnel represent both the Federal Department of Agriculture and the State colleges and experiment stations, the function of which should be to help establish the fullest correlation and cooperation among the several institutions. It is believed that the proposed council will make more effective the existing research machinery, will bring out in clearer relief the problems and methods of agricultural research, and will help conserve the funds and the energies now assigned to investigations in the field of agriculture."

ESCOP also presented one of its major reports to the 33d convention. This dealt with the present position and prospective outlook of the experiment stations, particularly with respect to personnel, increased financial needs, and support. The report pointed out that, although during the war station workers had many special services placed on their shoulders and there had been a great increase in the cost of research, the amount of moneys available, both Federal and State, had remained at almost the same level for the periods 1913-14 through 1918-19. (20)

Public Relations and Support

The Proceedings of the 34th annual conference, held in Springfield, Mass., Oct. 19, 1920, reflect growing concern among directors about a crisis with respect to

research support. Under the new constitution, policy matters relating to agriculture, research, and extension were now discussed in the Section of Agriculture. The Proceedings show that considerable thought and time were devoted to papers and discussions on the great need for additional funds for the stations. There were papers on: "Efforts of the War on Research in Agriculture," "The Needs of the Experiment Stations for Increased Federal Support," "What Should Be the Character of Further Federal Legislation in Providing Funds for Agricultural Research," and "Some Practices Which Help the Popularization of Experiment Stations and Their Work." The latter was a paper by Director F. D. Farrell, Kansas. He presented a point of view worth considering even now in matters of station public relations. ESCOP devoted its report to "Distributing the Results of Experiment Station Work." The report stated that "In order to place the results of station work effectively before the public and to keep it advised of what is being done, it is believed that more definite provision for publicity might often be made with advantage."

Coordination and Request for Funds

The Committee on Projects and Correlation of Research filed a 5-page report, approving the program of work of the U. S. Department of Agriculture, "now available to all station investigators." It said "that a wider diffusion of information regarding the investigative projects in progress at each station would be of the greatest interest in value to all investigators and would form the basis for an effort to bring about some sort of correlation and coordination in the principal lines of investigation."

The Secretary of Agriculture was urged to publish at the earliest date the "record of research projects" active at the experiment stations which the Office of Experiment Stations had in preparation. The report, signed by F. B. Mumford, Missouri; J. G. Lipman, New Jersey; and A. R. Mann, Cornell, asked for "steps to promote regional conferences of station workers in the interest of cooperation." Several pages were devoted to this subject and in its conclusion the committee recommended "that every possible means be employed to establish in the minds of workers the importance of conference and cooperation on undertakings of interest to workers in several stations." With subsequent acceptance by the Section of Agriculture and the Executive Body, regional research cooperation thus received its first official endorsement, as did the recommendation for a conference with the National Research Council concerning cooperation by the experiment stations.

From the operational standpoint, the following resolution by the Executive Body further paved the way for what was later to be known as the Purnell Act:

> "Finally, on motion, it was voted that it was the sense of the Executive Body that the Executive Committee should seek to secure the passage during the coming session of Congress of suitable legislation which should appropriate to the agricultural experiment stations in the several States gradually increasing amounts of money which should not be subject to equivalent State appropriation, the amounts to be such as in the judgment of the Executive Committee were deemed wise, to be applied to research in agricultural economics, home economics, and other country life subjects including research in agricultural production." (21)

In his presidential address before the Association's 35th convention held in New Orleans, La., November 8-10, 1921, Dean H. L. Russell, Wisconsin, chose the theme, "The Agricultural Experiment Stations in Middle Life and After." He traced the history of the land-grant institutions, how the pioneer agricultural colleges failed to fulfill expectations. Then the agricultural experiment stations were conceived. "Here through experimental inquiry," he said, "new knowledge was discovered, new principles uncovered which would guide to better practice. What this system has brought about the entire educational world knows. . . . The rounding out of this system of agricultural endeavor reached its final fruition in the passage of the Smith-Lever Act for the extension to the masses of the knowledge so gained. This triple grouping gives solidity and stability to this educational system. A three-legged stool is a firmer foundation than a two-legged support." The address is printed as an interesting 10-page analysis of the experiment stations' contributions to agriculture, their great need for more adequate support, and a strong endorsement of the Purnell Bill.

Director G. I. Christie, Indiana, spoke before the Section on Agriculture on "How to Secure National Interest in the Purnell Bill," and he was followed by Director Edward C. Johnson of the Washington station speaking on "Securing Publicity and Support for the Purnell Bill Within the Several States."

ESCOP's main consideration at this conference was discussion of a proposed reorganization of experiment station work presented to the previous annual meeting in the form of a paper by Dr. J. H. Webber who at one time had been Director of the California station. Briefly, the proposals had been: "(1) That each experiment station become a State bureau of the United States Department of Agriculture, with the director of the station its head; (2) that the experiment station director plan and direct all experimental agricultural work conducted in the State, in consultation with and reporting directly to the Secretary of Agriculture and the dean of the State college of agriculture; (3) that the maintenance for the agricultural investigation in a State be supplied jointly by Federal and State appropriations, analogous to the plan followed in extension work. . . ."

ESCOP gave the plan full and free consideration. It reached the following conclusion:

> "In the opinion of this committee, if the operation of the proposed plan would in any way tend to lessen the probability of the maintenance of the experiment stations as separate units of the land-grant institutions, it would be a most undesirable step to take. The maintenance of the State stations as distinct entities, with their organization, staffs, and environment favorable to research of the highest type, is an indispensable consideration in all plans for future development of the agricultural research possibilities of the country. The experiment stations which have been established as a result of the operation of the Hatch and Adams Acts constitute one of America's greatest contributions to agricultural organization, agricultural science, and agricultural progress, and their permanency should be carefully safeguarded in any plan for the future development of research in agriculture in the United States. If, however, Dr. Webber's plan contemplates only a closer union of the work of the State stations and that of the United States Department of Agriculture, its purpose is a thoroughly desirable one."

* * *

"The principle of cooperation and coordination is each year becoming less of a bugbear and more fully accepted. Already there is a large amount of cooperative work between the department and the experiment stations. Illustrations of it are found in the work on a number of widespread diseases, such as cereal rusts, the corn root rot, etc. The Federal Department of Agriculture is also utilizing the facilities of the stations to large extent as headquarters and as a working place for its men. This arrangement gives the latter, especially the less experienced ones, an association which is helpful and stimulating to them. The large measure of success in these joint undertakings where the proper attitude is preserved gives encouragement for expansion. There are indications that conditions are ripe for it.

"For several years this association has been interested in the proposal for a director of scientific work in the United States Department of Agriculture, and through its Executive Committee has lent its aid and influence in that direction. One object it has had in view has been the development of this correlation of the department's work with that of the stations, the making of research plans which will include the States, although they may be larger than the boundaries or facilities of any single State, the preservation of the local field while working out a research program for some of the larger and more comprehensive problems of agriculture."

1923 Regrouping of Agencies in USDA

The early 1920's brought a major reorganization in the U. S. Department of Agriculture. Much of this grew out of the recommendations made by ESCOP and the leaders of the agricultural experiment stations. Through the years they had urged that farm demonstration work, based largely on scientific findings, required a separate staff of demonstrators so that the experiment station scientists could devote more time to research. Passage of the Smith-Lever Act in 1914 and the subsequent growth of cooperative extension work in the States and Counties eventually brought organizational changes in USDA. Following passage of the Smith-Lever Act, the Department's program of extension work was administered first by the Office of Experiment Stations, and later by the States Relations Service, created in 1915. This Service included the Office of Experiment Stations, the Office of Home Economics, the Office of Cooperative Demonstration Work (North), and the Office of Cooperative Demonstration Work (South). Dr. A. C. True of the Office of Experiment Stations became Director of the States Relations Service. At that time the Department's various research activities were organized largely on a bureau basis.

ESCOP's recommendations for closer coordination of experiment station and bureau research was accepted by the Department. On November 21, 1922, in his address before the general session of the 36th Annual Convention of the Association, November 21, 1922, Secretary of Agriculture Henry C. Wallace said that "A year ago last July we were authorized [by Congress] to create the offices of Director of Scientific Work and Director of Regulatory Work. . . . The theory is that not only will the Director of Scientific Work coordinate the scientific work carried on in the Department proper, but that he will gradually . . . endeavor to bring about a more complete cooperation in scientific research work in the Department and the various State experiment stations and colleges."

The proceedings of the 1922 conference also contain a talk given by Assistant Secretary of Agriculture C. W. Pugsley on the proposed reorganization of the Department of Agriculture, including charts outlining the functions of the contemplated office of the Director of Scientific Work to which the Office of Experiment Stations was being transferred from the former States Relations Service. The Department's activities were divided into three major divisions, namely scientific, extension, and regulatory work.

The report of the Committee on Projects and Correlation of Research said in its report:

> "Now that a Director of Scientific Work has been established in the Federal Department, to whom has been committed the special consideration of these problems, we believe that specific attention should be called to the great desirability of station directors consulting with the Federal authorities in matters of inaugurating research that is of such a character that the higher interests of science and efficiency should be met." (23)

When Secretary Henry C. Wallace appeared again before the Association at the time of its 37th annual convention, held in Chicago, Ill., November 13-15, 1923, he said relative to the duties of the Department's newly-created post of Director of Scientific Work:

> "The Director of scientific work is charged with the responsibility, not only of supervising the scientific work of the department, but of endeavoring to correlate that with the scientific work of the stations, and in every possible way to aid the stations connected with the various colleges to correlate their work, not with a review of imposing any plan of the department upon them, but in a thoroughly sympathetic, cooperative spirit." (25)

During the 36th convention ESCOP also engaged in a discussion of the desirability of a general plan or program for the activities and development of each individual station. It recommended that "each individual station should undertake to outline a general program for its work and future development. Such a program should cover a period of several years, but should provide for periodic reconsideration and amendment." The Committee on Publications of Research expressed appreciation to the Secretary of Agriculture for having succeeded in getting legislative approval of Senate Joint Resolution 132, making it possible to resume publication of the Journal of Agricultural Research which had been suspended on December 1, 1921. (23)

While the post of Director of Scientific Work had been authorized by Congress in 1921, actual authority for the departmental reorganization did not come until 1923 under the agricultural appropriation act of February 26, 1923 (42 Stat. L., 1289).

> "The States Relations Service as a bureau was completely abolished, but practically all of its component agencies were maintained as separate units," Milton Conover wrote in 1924. "The Office of Home Economics was developed into a separate departmental bureau, and its activities promised to be greatly extended. . . . The Office of Cooperative Extension Work, like the Office of Exhibits and the Office of Motion Pictures of the Division of Publications, was placed in the Extension Service of the Department to be directed by a

"Director of Extension Work. The investigation of agricultural instruction in the schools was continued under the general supervision of the Specialist in States Relations Work in the Office of the Secretary, the Specialist being Dr. A. C. True.

"The Office of Experiment Stations was continued as a separate unit of the Office of the Secretary of Agriculture under direction of a Chief who, also, was made Assistant Director of Scientific Work reporting to the Director of Scientific Work.

"The primary activities that remained with the Office of Experiment Stations after this reorganization of 1923, according to its chief, Dr. E. W. Allen, were: to pass upon and approve the research projects to be carried on under the Adams Act; to make an annual examination of the work being done under the federal and state funds at each of the stations; to review the expenditures from Hatch and Adams funds; to confer with the local officers regarding matters of policy and administration; to compile annually the projects conducted at all of the stations in a classified list; to promote coordination and cooperation between the stations and with the Department; to make an annual report to Congress upon the progress of the stations; to maintain advisory relations with the stations on a wide variety of matters; and to exert influence on the organization, management, and standards of the stations through editorials in the Experiment Station Record." (24)

Reporting Financial Resources of the Stations

ESCOP made two major recommendations at the 37th convention. One was a tentative draft of a code of ethics for experiment station people to be presented to the States. More closely related to administration, however, was a 3-page supporting statement and a recommendation that "the Office of Experiment Stations be authorized to request each experiment station to report annually the amounts of its State and other supplementary funds expended for each of the following purposes:

"(a) Research and experimentation.
(b) Regulatory work, e. g. inspection and analysis, stallion registration, advance registry tests, etc.
(c) Public service and advisory work, e. g. State entomologists, health and sanitation laboratories, marketing services, etc.
(d) Soil and other surveys.
(e) Management of farms and other commercial enterprises and any other class of activity not embraced in the above.
(f) Capital outlay."

This recommendation was approved in the Section of Agriculture and adopted by the Association. (25)

Memoranda of Understanding

In view of the pending Department of Agriculture reorganization, the Association had, in its 36th convention, requested the incoming executive committee to take up with the Secretary of Agriculture the matter of resurveying the "present memorandum of understanding concerning cooperative extension work between the

land-grant college on the one hand and the United States Department of Agriculture on the other, with a view of more accurately covering cooperative relationships between the colleges and the department in respect to research as well as extension."

Pursuant to this resolution, the Executive Committee met with the Secretary of Agriculture and other administrative officers in the Department and referred the matter to the Committee on Projects and Correlation of Research. This committee, of which Dean and Director F. B. Mumford of Missouri was chairman, said in its report to the 37th convention:

> "The State agricultural experiment stations were established in the beginning by the national government and received a considerable portion of their support from the Federal treasury and are in effect Federal institutions. It follows, therefore, that the closest possible relations should be developed and continuously maintained between the research work of the United States Department of Agriculture and the research work of the agricultural experiment stations in the several States in order to unify, correlate, and secure most efficient results for the nation at large."

The committee stated that as a result of the conferences between the Association's officers and the Secretary of Agriculture, the Secretary had sent a letter to the Governors of all States (Attachment D) establishing the policy that in all matters of cooperative relations in regulatory work the Department would cooperate with the State departments of agriculture or such law enforcement agencies as the State may have created; that research work, if done in cooperation with the States, would be carried on with the experiment stations; that extension work, if done in cooperation with the States, would be carried on with the extension divisions of the State agricultural colleges.

The committee recommended that "When research projects pertaining to the work of the State experiment stations are to be undertaken they will be brought to the attention of the colleges and the stations of the States concerned. This will be done both to afford opportunity for cooperation, either formal or informal, as the conditions and circumstances may warrant, and to insure to the experiment stations knowledge of the cooperative undertakings of the department with other agencies, either public or private, within the States, where the nature of the department work requires such other cooperative relationships."

The Executive Committee was asked to confer with the Secretary of Agriculture with a view of formulating a general memorandum of understanding which will carry into effect the general policy of efficient cooperation regarding agricultural research. The report was adopted by the Association and the groundwork laid for memoranda of understanding pertaining to agricultural research.

The 37th Convention also resulted in 12 printed pages of discussion concerning regional conventions and regional coordination of research. Dr. E. W. Allen delivered a scholarly address on the Administration of Agricultural Research.

Coming on the eve of passage of the Purnell Act, the 38th Annual Convention, held in Washington, D. C., November 12-14, 1924, resulted in no specific administrative recommendations. It was productive of the following papers on experiment station subjects:

"The Scope and Function of Experiment Station Reports Under Present-Day Conditions," by Acting Director F. B. Morrison of Wisconsin; "The Handling of Research Projects," by Director F. D. Farrell of Kansas; "Testing the Proposal of the Project Leader," by Director J. G. Lipman of New Jersey; "Changing the Plan of Emphasis of the Station Project," by Director E. A. Burnett of Nebraska; and "Experiment Station Leadership in Economic Problems," by Director Thomas Cooper of Kentucky.

ESCOP presented its final draft of its "Code of Ethics for Experiment Station People," admitting that such a code could not be made a binding rule or administrative regulation but that it could serve as "a statement of what is regarded by the group as the professional standard of conduct in such matters." The Proceedings show no later consideration of the recommended code by the executive body of the convention. (26)

Purnell Act Widens Scope of Research

The Purnell Bill, actually in the making since ESCOP's comprehensive report to the Association during the 32d convention of January 1919, was approved by President Calvin Coolidge on February 24, 1925. Congressman F. S. Purnell of Indiana had said in his 1923 address before the Association:

> "It is not my bill. I only have the honor of having my name attached to it. It is your bill. It has been brought into being through years of study and investigation upon your part, and it is my duty and your duty to impress upon Congress and upon the country, as well as upon the executive branch of the government, the absolute necessity of its passage." (25)

Congressman Purnell had frankly admitted in that address that it was not until repeated briefing by his friend, Dr. G. I. Christie, Director of the Indiana Experiment Station from 1920 to 1928, that he appreciated the quality of research and services contributed by the agricultural experiment stations toward solving the constantly changing problems of agriculture.

On May 20, 1925, Secretary of Agriculture William A. Jardine issued a letter to the Directors of the Agricultural Experiment Stations on "Administration of the Purnell Act," designating the Office of Experiment Stations to represent the Department of Agriculture" in matters relating to the details of administration of this law. . .in the same general way as it has heretofore in relation to the Hatch and Adams Acts." (Attachment E).

During the first general session of the 39th Annual Convention held in Chicago, Ill., on November 17-19, 1925, Director J. L. Hills of the Vermont Experiment Station and Dr. E. W. Allen of the Office of Experiment Stations presented a paper on the history of the Purnell Bill. This takes up six printed pages in the Proceedings with some references going all the way back to 1895. It documents serious consideration by some directors even prior to the creation of ESCOP of the need for research in agricultural economics and the social sciences. An interesting paragraph from the Hills and Allen paper follows:

> "At the 1904 (Des Moines) Convention, Dr. K. L. Butterfield, then hardly more than seated in the presidential chair of the Rhode Island State College, discussed 'The Social Phase of Agricultural Education.' He urged the land-grant colleges to do research work in 'the history and status of . . . the industrial, political and social

"phases of the farm question.' He said: 'How the various farm interests have developed, a comprehensive study of the agricultural market, the relation of transportation to the industry, the tendencies as to centralization of farms and tenant farming, the sociological questions of rural illiteracy, pauperism, insanity, health, education, the effects of rural life upon character, religious life in the country--a hundred subjects of importance in the solution of the farm problem are almost virgin soil for the scientific investigator.' The writer believes this to be the first note sounded in our ears touching this need." (27)

During the period of formulation of the Purnell Act and following its passage, Directors of Experiment Stations became engulfed more and more by appeals from areas of subject matter not previously engaged in research that was part of the experiment station program. During several conventions of the Association, the Home Economics Section engaged in long discussions as to how the Purnell bill could be applied to station research in home economics. The Proceedings of both the 38th and the 39th conventions contain many pages of discussion of home economics research. A questionnaire made by the Bureau of Home Economics in 1924 had shown that 23 of the 44 land-grant colleges with organized instructional work in home economics reported research under way. In only three of the institutions, however, had home economics research been supported by experiment station funds although these actually had been available under both the Hatch and the Adams Acts. (26) Likewise there were numerous papers and discussions relative to research in agricultural economics and the social sciences, among these the following: "The Influence of the Purnell Act on the Development of Agricultural Research," by E. W. Allen, Chief, Office of Experiment Stations; "The Principles Which Should Characterize Sound Investigation in the Field of Agricultural Economics and the Social Sciences," by Dr. John D. Black, University of Minnesota; and "Organization for and Relationships in Cooperative Research," by Director Thomas Cooper of Kentucky.

The papers referred to appear in the Proceedings of the 39th Annual Convention of the Association held in Chicago, Ill., November 17-19, 1925. (27) They deserve studious reading by everyone concerned with the administration of research at agricultural experiment stations. So does the address given by Secretary of Agriculture William A. Jardine before the Association's evening session on November 18, 1925, from which the following lines are quoted:

"The United States Department of Agriculture wants to do its share in the various fields of research and to do it in closest cooperation and coordination with the state experiment stations. We all have our most vital interest not in our organizations and institutions, necessary though these are, but in the betterment of American agriculture. I know of no places where this point of view is more completely recognized than in the state experiment stations and land-grant colleges and the Department of Agriculture.

* * *

"We need the cooperation of all agencies--research, teaching, and extension--for agricultural betterment. We should strive to see that all of our workers realize, as far as possible, the scope of our work as a whole. In actual practice, however, we shall get the best results if each individual carries on to the best of his ability the line of work for which he is peculiarly fitted. Let him realize that he is definitely a part of the whole, show him just how his

"function serves the whole, and enable him to see that his best contribution to the whole of agricultural progress may be made in the performance of his specific duties, whatever they may be. Differentiation and coordination of effort must go hand in hand, if we are to make steady and consistent progress."

Passage of the Purnell bill knitted closer the research activities of the Department of Agriculture and of the agricultural experiment stations. Participation in planning also took on a wider scale. Whereas following passage of the Adams Act, rules were formulated and recommended primarily by the directors, presidents of the institutions and numerous departmental leaders took part in formulating recommended policies with regard to Purnell research. How involved participation under the Purnell bill became is shown in the following excerpt from the 1925 report of the Joint Committee on Projects and Correlation of Research:

"The Purnell bill was approved February 24, 1925. At a meeting of the Executive Committee in Washington on February 16 to 18, 1925, the Committee, by authority vested in it by the constitution, authorized the calling of a meeting of the administrative officers of land-grant colleges, including the presidents of institutions and the deans and directors of experiment stations, for the purpose of discussing plans for the administration of the funds appropriated to the states by the Purnell Act. The Secretary of Agriculture likewise authorized chiefs of bureaus and investigators in the United States Department of Agriculture to attend this conference to formulate plans for the promotion and development of cooperative research between the United States Department of Agriculture and the state experiment stations. This conference was held in the city of St. Louis, Missouri, April 20 and 21, 1925. The St. Louis Conference selected six national projects as follows:

"1. Distribution and marketing of farm products.
2. The problem of surpluses of farm products.
3. Vitamin content of food in relation to human nutrition.
4. Rural home management studies.
5. Rural social organizations and agencies essential to a permanent and effective agriculture.
6. Factors influencing the production and quality of meats.

"The conference authorized the Executive Committee to appoint special subject-matter committees to formulate project plans to be submitted to the several states with a view to their adoption in a nation-wide program of cooperative research. These special committees were appointed by the Executive Committee and called to meet in Washington on June 3, 1925. The chairmen of the subject-matter committees were:

"Director T. P. Cooper, chairman, committee on distribution and marketing of surpluses.

"Dr. Louise Stanley, chairman of the committee on vitamin content of food in relation to human nutrition.

"Dean Anna E. Richardson, chairman of the committee on rural home management studies.

"Director G. I. Christie, chairman of the committee on rural social organizations and agencies essential to a permanent and effective agriculture.

"Director F. B. Mumford, chairman of the committee on factors influencing the production and quality of meats.

"The St. Louis conference provided that all project plans submitted by the special sub-committees were to be examined by the joint committee on projects and correlation of research and if approved submitted to the several states and the Department of Agriculture with a recommendation that they become the project plans for these national investigations.

"The project plans prepared by the special committees were examined by the committee on projects and correlation of research at a meeting in Washington on June 5. The approved plans were duplicated under the direction of Dr. E. W. Allen, executive secretary of the committee on projects and correlation of research and mailed to the several stations.

"As a result of the action, at the St. Louis conference, of the special committees and of the joint committee on projects and correlation of research, the following projects have been submitted to the Director of the Office of Experiment Stations in accordance with the recommendations of the St. Louis conference:

"

	No. of states	No. of projects
Marketing livestock and livestock products	9	11
Marketing fruits and vegetables	8	8
Grain marketing	6	8
Marketing dairy products	5	11
Cooperative marketing	6	6
Requirements of consumer areas, cotton marketing	0	0
Problem of surpluses	0	0
Miscellaneous marketing projects	4	7
Vitamin content of food	10	12
Rural home management studies	10	12
Rural social organizations and agencies	9	12
Factors influencing the quality and palatability of meat	18	19

"The plans of investigation for the national projects are still (November, 1925) being submitted to the Office of Experiment Stations for approval. The latest statistics available from the Office of Experiment Stations indicate that 38 states are at work upon 76 individual projects which are directly related to the national program of research." (27)

ESCOP presented one of the most thorough and longest reports in its history during the 39th convention. It is an excellent statement of the principles of thoroughness, wholehearted cooperation, and quality of research to be achieved under the act. The entire report takes up 8 pages. It includes a list of 10 specific

recommendations with special emphasis on cooperation and coordination as between experiment station and Department of Agriculture research. (Attachment F).

The Joint Committee on Projects and Correlation of Research said:

> "The importance and significance of the developments in agricultural research during the past year and recorded in this report cannot be easily measured. For the first time in the history of experiment stations, project plans have been formulated by leading specialists in the several subjects. These plans have been accepted as the working plans for the investigation of national problems."

Six functions were outlined for the special subject-matter committees, and the recommendation that they be continued was approved by the executive body of the Association. The chairman of the Executive Committee of the Association expressed concern about the attitude in some states concerning the Purnell Act, that "in at least one state it is the avowed purpose of the state house authorities proportionately to reduce the state appropriation as rapidly as the Purnell increments became available." He called attention to the fact that the Purnell Act is an enabling act and does not appropriate; that it is to be expected that each year the stated sum will be included in the annual appropriation bill. For a state not to provide funds would be an act of bad faith; and he further stated "that some college and station executives are so anxious about this matter that they are almost inclined to suggest adoption of a resolution by this association, to the effect that it would look with favor on the withholding of equivalent Federal dollars withdrawn from station support in any given state. . . . the Executive committee feels that these Purnell monies are made available to going concerns, that they should not be used for building purposes, but should be used for work done in buildings already erected or otherwise financed." (26)

A year later on November 17, 1926, Secretary Jardine reported as follows on progress under the Purnell Act:

> "On the side of research and investigation the outstanding developments of the past year have been the fine beginning in home economics research, upon which field three-fourths of the states have entered under the Purnell Act, and the remarkable activity in developing research in agricultural economics, in which practically every state is participating. In the home economics field in particular, we need to have a large number of persons trained for effective research." (27)

At the 45th Convention of the Association in 1931, the Joint Committee on Projects and Correlation of Research recommended to the Executive Committee that "the special research committees be discontinued with the thanks of the Association for highly valuable services rendered." (34)

Teaching and Research Salary Adjustments

During the 40th Convention, held in Washington, D. C., November 16-18, 1926, ESCOP outlined three major considerations of policy: "Relation of the Nine Months of Employment in the College or University to Efficiency of Research;" "The Importance of Fully Maintaining Standards of Experiment Station Research;" and "How Far Should the Practice Be Favored or Encouraged of Using the Purnell Fund Mainly for Salaries, Thus Spreading It Quite Broadly and Relying on State Funds for Supplying the Further Requirements?"

ESCOP reported that a review of the policies followed by different institutions had shown that "in many instances members of the teaching staff of the college have been receiving as much salary for nine months' work as the station employees of corresponding rank have received for eleven months." The committee reasoned that "most lines of agricultural investigation cannot be adjusted to a basis of nine months' service on the part of the investigator and that adjustments for longer periods should be made." Administrative officials "who have not already done so" were urged to "make a thorough study of the problem of adjustment of salaries, between those who render eleven months' service to their institutions, and those who serve only nine months."

ESCOP Recommends Station Project Review Committees

ESCOP expressed concern, as a result of the opening of new fields for research under the Purnell Act, about maintaining the standards of research.

> "The object of research is to discover something hitherto unknown, or to make application of known principles in a new way that definite results may follow," said the report. "While research involves the collection of data, oftentimes intricate manual processes, and much routine work, these should not be considered in themselves the end but rather the tool of inquiry. . . . The extent to which the survey method is coming to be employed makes it important that a better understanding be had of what a survey in itself can accomplish. The survey method is a very valuable tool in promoting the object of certain types of investigation, providing the survey is definitely directed to the end sought, and the schedules are so organized that the information collected will tend to cross-check itself, but there are limitations. . . ."

After questioning along these lines some of the newer research proposed, ESCOP then urged greater care in the preliminary and early consideration of new lines of work as follows:

> "Exception to the general high plane of experiment and investigation at this time may be due to lack of adequate attention to projects in the initial stage. If standards are to be maintained a critical examination should be made of the projects themselves before they are accepted for investigation. The director has a large responsibility in this. No director can afford not to know whether the projects his staff are setting up are well considered and sound experimentally. If he cannot be expected to have judgment over the whole field which the station is covering he can at least exercise his knowledge of general principles which relate to all investigations, and he can set up machinery in the form of committees or otherwise which will help him to evaluate the various undertakings. Experience at several stations has shown that properly organized committees charged with responsibility may be a real aid in the critical examination of projects and the development of better outlines. In view of the growth in volume and variety of research, it is recommended that such committees be made a part of the administrative policy of the stations. It is important that the director inculcate in his staff the necessity for accuracy, thoroughness and reliability in investigation and experiment, and such committees properly supported will aid much in this direction.

"The public is expecting more from the experiment stations than ever before. The results of experiment station work are given critical examination, especially when they relate to practical problems. If the results obtained will not stand careful analysis the experiment station cannot hope to hold its prestige; regardless of whether the investigation is aiming toward fundamentals or immediate practical results, the work should be so carefully planned and sound that there may be no question about its reliability and value."

Regarding the third point considered, namely encouragement of Purnell funds mainly for salaries, ESCOP said:

"As a policy it would seem wiser, therefore, to decide carefully upon the projects which should and can be carried by the Purnell fund and for these projects provide both salary and maintenance from the Purnell fund. This should be done, at least to a degree that will insure adequate support and justify such investigations as Purnell projects rather than projects carried mainly on other funds and contributed to from the Purnell fund."

The Proceedings of the 40th Convention also contain an interesting 15-page History of the Hatch Experiment Station Act inserted as a Report of the Bibliographer, A. C. True.

Further ESCOP Emphasis on Project Outlines

By the time the Association held its 41st Annual Convention at Chicago, Ill., November 15-17, 1927, Director James T. Jardine of Oregon had become chairman of ESCOP. The committee gave further consideration to the "Adjustment of Salaries for Station Workers Commensurate With the Standards and Requirements of Yearly Service." It also outlined a "Policy With Reference to Inventions and Discoveries of Commercial Value Which Result From Station Investigations." But its major contribution during this conference was its continued consideration of the need for scrutiny in outlining new research projects, including essential elements of an experiment station outline. This part of ESCOP's 1927 recommendation is attached to this summary. (Attachment G).

During the 45th Convention in 1931, ESCOP reviewed the matter of project outlines on the basis of the Office of Experiment Stations' 4-year experience in handling projects since 1927. After restating its previous recommendations, ESCOP said:

"While the project outline is not a thing to be standardized, it may properly be expected to conform to certain essentials which experience and good usage have disclosed. The minimum of such essentials for an acceptable project outline are in brief as follows:

(1) A clear-cut specific title, accurately characterizing the work to be undertaken;
(2) The leaders and cooperators in the project.
(3) Clearly defined objectives.
(4) An explicit statement of procedures to be followed.
(5) Evidence of familiarity with work of others on the subject.
(6) Allotment of funds.

"The precise and complete form and content of a project outline applicable to all cases would be difficult to prescribe, but adequate and definite information on points one to six enumerated is essential in passing judgment on projects submitted for approval. It is believed that the handling of projects by the Office of Experiment Stations as well as by station directors would be simplified and expedited if these requirements and suggestions are consistently adhered to in formulating the project outline."

Ten years after the project outline had been recommended, during the 53d Association Convention in 1939, the Joint Committee on Projects and Correlation of Research said:

"The successful effort of the Committee on Experiment Station Organization and Policy with the cooperation of the Office of Experiment Stations to encourage at the outset of an investigation preparation of a detailed outline of the proposed project, discussing its relationship to projects in progress elsewhere and to work already published, constitutes a fundamentally important step toward the establishment of a logical correlation of any proposed study with work already under way. It is the recommendation of this Committee that the Committee on Experiment Station Organization and Policy continue to encourage effective outlining of projects with the assistance of the Office of Experiment Stations.

"The cooperation of the federal Office of Experiment Stations with the Agricultural Experiment Stations in the endeavor to prevent duplication of effort and to keep each project in each state clearly defined in field of work and methods of study, tends strongly to bring about a condition of well-correlated effort among workers and to contribute directly to their success." (8)

The Joint Committee on Projects and Correlation of Research summarized its activities and accomplishments for the past 15 years. The Committee on Publication of Research reported, as it had annually, the number of manuscripts considered for publication in the Journal of Agricultural Research.

Survey of Land-Grant Institutions

As early as its 38th annual convention in 1924, the Association had given consideration to having a survey made of the activities of the land-grant institutions. In his presidential address at that time, President Raymond A. Pearson added to the list of nine obstacles to the land-grant movement originally outlined by Dean Davenport twelve years before the following 10th obstacle: "The belief of some people that the agricultural colleges are responsible for overproduction and low prices." Following discussions at the 39th Convention, the Association had requested Commissioner J. J. Tigert of the United States Bureau of Education to engage in such a survey. Congress provided the Bureau with a $117,000 for a 2-year study, and Director Tigert of the Bureau summarized the plans for the study before the Executive Body of the Association on November 15, 1927. While the latter was under the Bureau of Education's direction, numerous committees of the Association were named to work with the Bureau. During the 1927 (41st) Convention, Section on Agriculture--Experiment Stations Division named Directors J. T. Jardine of Oregon, W. C. Coffey of Minnesota, and M. J. Funchess of Alabama as members of the special subcommittee to work with the Bureau of Education for the experiment stations in making the survey.

The information gathered in the survey was documented and is available in printed form in all land-grant college libraries. A special section was devoted to Graduate and Research Work. There are 2 volumes, comprising a total of nearly 2,000 printed pages. Part VIII is devoted to research, taking up a total of 124 pages including the following chapter headings:

I. Introduction
II. Control Over Research Activities by Agencies Outside of the Station Organization
III. Financing
IV. Results of Research in Agriculture
V. Station Organization and Management

For the year, 1928, the report estimated the experiment stations' contributions in economic value to the agricultural industry in 16 different categories at $842,470,995. Under "Station Organization and Management" appears the following paragraph:

> "The policy of the Office of Experiment Stations from the first has been publicly announced 'as one of participation rather than of control.' The vote of approval from the institutions secured by the survey is ample evidence that participation has meant valuable contributions in guiding and helping to shape standards of research, in the maintenance of national as well as State and local viewpoints; in the continuity of research where local need and local pressure might otherwise have resulted in too great emphasis on expedient investigation." (30)

Dr. Arthur J. Klein, in overall charge of the survey, unveiled before the 1930 Convention a manuscript copy of the full report as it had gone to the Government Printing Office. Concerning the research chapters he commented:

> "I want to speak about our treatment of research. I do not think our treatment of research gives us anything startlingly new in organization, startlingly new or extreme in methods, or relationships, but there is one thing about this report that makes it, in my opinion, stand out as a real contribution. We have collected and presented in easily intelligible form, typical examples of the actual money value of research in the agricultural field, and presented this information in such fashion that I am sure it can be used by you and the experiment stations in a most effective manner in securing better understanding of what research means to the states and to your institutions themselves. I do not believe that anywhere or ever there has been collected and presented in such clear form such a demonstration of the actual values of research in the agricultural field. I recommend it to you for publicity purposes." (33)

Payments to States As Part of USDA Budget

The Proceedings of the 42d Annual Convention in 1928 (31) included an address by Dean and Director J. J. Hills of Vermont, "The Builders of the Association." It dealt with the founding of the organization and summarized some of the contributions made by some of the founders. It credited Henry E. Alvord, at one time

President of the University of Maryland and subsequently a dairy farmer in Virginia, with the "successful attempt to secure passage of the first Hatch Act appropriation;" with being instrumental "in securing the Hatch appropriation item with the House Committee on Agriculture thus making it automatically an item in the annual budget of the Department of Agriculture, a precedent which has carried with all subsequent appropriations; with securing for the first time quarterly advance payments of Federal funds, now a common practice;" and with helping "loosen up the Post Office franking regulations in respect to station publications." It gave Dr. Wilbur O. Atwater, first director of an experiment station (Connecticut in this country, later the first Director of the Office of Experiment Stations, considerable credit for initiating the concept of American agricultural experiment stations. Dr. Atwater "was a delegate from the University of Tennessee attending the February 1872 National Agricultural Convention called by Commissioner of Agriculture Watts" and read the report of the Committee on Experiment Stations. "On its basis a resolution was adopted providing for 'a statement setting forth the character, value, and practicability of experiment stations' . . . This may be deemed to be the first gun fired in the 15-year campaign which culminated in the passage of the Hatch Act."

The 1928 Proceedings also contain a report by the bibliographer, A. C. True, outlining the history and activities of the various scientific and technical societies dealing with agriculture and related subjects. The Section on Agriculture--Joint Session heard Director S. B. Doten of Nevada speak on "The Station Director, His Relationships and Responsibilities." The Experiment Station Section heard Sybil Smith of the Office of Experiment Stations summarize home economics projects initiated with the use of Purnell funds, and R. W. Trullinger pointed to "Promising Lines of Agricultural Engineering Research." ESCOP discussed and filed reports on "Continuity in Research" and "Cooperative Research With Commercial Enterprises." The latter was reaffirmed in 1929. (Attachment H) Three years later at the 45th Convention in 1931, Dean and Director H. L. Russell of Wisconsin said: "The postulates which were then formulated are as sound now as they were then, and can well serve as a guide for the future."

The Joint Committee on Projects and Correlation reviewed the whole matter of cooperation between stations and the Department and between the stations in a lengthy, 5-page report. It did so on the basis of the 1927-28 participation under the Purnell Act. Over 900 active projects had been carried out in cooperation between the stations and the Department, constituting 13.5 percent of the total number of experiment station projects. However, the committee sought reasons why the cooperation between stations was not heavier:

> ". . . The logic and the advantage of cooperation have been set forth so often that they may not seem to need further recital, but there is evidence that cooperation and coordination do not always receive the attention from administrative officers that they deserve.
>
> "Cooperation in research assumes a problem in which various parties have a mutual interest and responsibility and, furthermore, that each has some part essential to the investigation which it can contribute. The underlying idea is the combination of experience, viewpoint, and facilities to promote better organized and more systematic plans for well-rounded investigation covering the subject and supplying a sufficiently broad basis of evidence. It is to economize effort and avoid unnecessary duplication on an independent basis, and to make the results of individual investigations comparable and supplementary."

* * *

". . . A larger measure of coordination and correlation is regarded as one of the greatest needs of our agricultural research at the present time. This is not wholly a question whether or not investigators shall actively cooperate; it is a matter of relating investigation to that of the past and the present, so as to make it more definitely directed at the unsolved and unsettled features by means that are adequate. So far from being a question of subordination of individual initiative and independence, correlation is a challenge to originality. It is in accordance with the expectations and practices of research that investigation will be directed at topics which have not been solved or to points still in doubt. Confirmation and the elaboration of an idea imply rigorous and definitely directed inquiry--not unconsidered repetition and duplication.

"We have in the field of agricultural research unusual means of keeping posted on the investigations under way and the reported results. The 'Classified List of Projects,' compiled and issued by the Office of Experiment Stations, is an index of research activities. It lists by title every active project under way at the experiment stations, grouping these by subjects and with suitable cross references. The preparation of such a combined list is a quite laborious undertaking, possible only through the assistance of all the experiment stations in supplying current lists, and especially in making project titles as explicit and informing as possible. This publication deserves wide use, for it makes possible arrangements for cooperation and coordination and for relating new work to actual requirements of the subject and the locality."

Two Vacant Chairs

From the standpoint of personal influence in the developmental aspects of agricultural research policies, the 43d Annual Convention of the Association, held in Chicago on November 12-14, 1929, marked the end of an era. In March of that year, Dr. Alfred C. True, since 1889 on the Office of Experiment Stations staff, had died. He had been the right hand of the first Director, Dr. Atwater, just as the Hatch Act came into operation. In 1893, he was made Director. Closely associated with him from 1890 onward had been Dr. Edwin W. Allen. Both had taken part in most of the conventions since the Association was founded in 1887 following passage of the Hatch Act. Dr. Allen had come to the convention prepared to read the manuscript he had written as a memorial tribute to Dr. True. But on the evening prior to opening of the convention, he died unexpectedly. We find these unusual references in the table of contents of the Proceedings:

"Memorial to Dr. A. C. True, by E. W. Allen..... p. 41.
Minute Concerning the late Dr. E. W. Allen, by J. L. Hills....p. 45."

The two memorial tributes provide those seeking to understand present-day policies of Federal-State relationships in research with a background of two men who had much to do with bringing about these policies. As they passed from the scene, the esteem of their colleagues was fittingly expressed in the closing paragraph of Director J. L. Hills' tribute:

"There are now two vacant chairs on the fifth floor of the Fourteenth Street Department building in Washington. For forty years they were not only occupied by the same persons but they were filled. Others will occupy them, will fill them, will 'carry on,' will 'build . . . more stately mansions' than have their predecessors. But to all of us who

"have known these two men . . . and especially to some of us who not only have long known but have loved them, that fifth floor can never be the same again."

More Effective Correlation of Research

A graduate in agricultural chemistry at Massachusetts Agricultural College in 1885, and at Gottingen, Germany, Dr. Allen was endowed with the rare combination of scientist, writer, and public speaker. For many years he was a member, both of ESCOP and of the closely related Committee on Projects and Correlation of Research. These committees relied heavily on his writing ability. Even the 1929 report, filed after his death but including his signature, contained numerous paragraphs written in the characteristic clarity that marked Dr. Allen's style. Cooperation and advancement of research had been uppermost in his mind throughout his career. The following paragraphs from the Project Correlation Committee' report presented some of Dr. Allen's basic philosophies that were to be woven into agricultural research policies far beyond the 43d Convention where he died in the harness:

"A great movement has been set on foot to bring about cooperation in the agricultural industry. Already it is making the demand felt for more positive, safely applicable information on a great variety of subjects. The need is for well-rounded and coordinated knowledge in place of fragmentary information which must be summarized and interpreted before it can be used widely. The occasion presents an unusual challenge to the agencies relied upon to furnish the basis of progress in knowledge and understanding of agricultural problems.

"In carrying out its function, the Joint Committee on Projects and Correlation of Research, representing this Association and the Federal Department, has felt the need of more effective means of bringing about correlation. To aid in this, the chief of the Office of Experiment Stations has been made assistant director of scientific work and the Office of Experiment Stations thus made a part of the director of scientific work, with direct relations to the research work of all the bureaus of the Department as well as of the experiment stations.

"It is planned to add to the office force from time to time men of recognized ability to lead in project correlation both within and outside the Department. It is hoped to have available for easy reference and review all projects of the Department as well as of the stations, and to initiate conferences and cooperation whenever such are desirable. A number of joint committees with this in view have already been established. Continued support for research depends upon the advance that may be accomplished through effective correlation and cooperation.

". . . Research ought not to be regarded merely from the local standpoint. The experiment stations constitute a national system and they bear an intimate relation to the Federal Department of Agriculture. Correlation of their efforts is essential to economy of effort and efficient progress. After it has been effected there will still remain sufficient individual opportunity and institutional initiative for self-expression."

Experiment Station Travel

ESCOP in 1929 again discussed the subject of research cooperation with commercial enterprises and reiterated its recommendations made the previous year. It also discussed and formulated a recommended policy with respect to travel of experiment station workers. (Attachment I). We must remember that these recommendations were drawn prior to the time of the Regional Research Program authorized under the subsequent Research and Marketing Act. The policy recommended, however, contains many elements of reasoning that still apply.

The following year, during the 44th Convention, Director W. C. Coffey of the Minnesota station presented a paper before the Experiment Station Section on "The Numerous Demands for Travel to Conferences, Meetings, Etc., and How to Deal With Them."

> "I think this matter of station travel will grow more difficult and complex rather than less so," said Director Coffey. "More and more research is becoming a group undertaking. On this account, frequent conferences are necessary. There are many important programs of research in which stations have much in common. The work in corn breeding furnishes a good example. Those engaged in this work should come together each year, not necessarily all of them but at least a representative from each station involved. Far more would be lost by not bringing them together than would be spent in getting them together. The workers realize the importance of such conferences. There is, I grant, somewhat of a holiday feature in leaving the regular routine of duties for a conference, but I am bound to observe that our people who do attend meetings and conferences of research workers attend to the tasks expected of them and they endeavor to bring back something of value to the local program.
>
> "Perhaps no one policy can be laid down to serve as a guide for each and every experiment station, or for any one station over a long period of time. But in general, it seems that this matter of travel will have to be subject to a kind of administrative regulation and supervision which indicates careful planning and forethought. Authorization for the travel will have to be secured in advance and the application will have to show the purpose and need of the travel and the approximate expense. Unless the occasion for the travel is quite definitely related to the nature of the researches in hand or their prosecution or their administration, doubt may very well be raised as to whether the travel is justified at station expense.
>
> "Since a conservative policy must be followed, the station would do well if it were to survey the field of conferences and meetings from time to time (perhaps yearly) for the purpose of determining which are the most significant in view of its own particular needs. At best there will doubtless be a greater number of desirable gatherings than can be attended. Such a survey, if wisely used, would help to keep travel authorizations balanced and centered on their legitimate purpose. This has not always been the case, especially in those instances in which members of the staff have had unusual persuasive powers in their own behalf."

The Decade of Adjustments

As the Association gathered for its 44th Annual Convention, there were rumblings of farm crisis and, among station directors, concern whether the experiment stations were contributing quality research in the fields of agricultural economics, farm management, and other phases of the social sciences. The Section of Agriculture heard Dr. H. R. Tolley of California speak on "Economic Readjustments of American Agriculture" and Congressman Victor Christgau of Minnesota on "Legislation Needed to Bring About Readjustments in Agriculture." Vice Director Andrew Boss of the Minnesota Experiment Station spoke on "The Relation of State Research and Extension Agencies to the Readjustment of Agriculture in the Evolving Economic Situation."

> "Without in any way curtailing support for the pursuit of research in the field of biological and natural sciences," said Dr. Boss, "emphasis may well be centered upon more aggressive effort and more substantial support for research in the social sciences. There is reason to believe that research in these lines may lead to just as lasting benefits to agriculture as have evolved from the biologic researches of the past. The readjustments now imperative are the result of the economic forces and their reactions, rather than of biological forces. . . .
>
> * * *
>
> "An agressive program of research and education is the duty of every state in this period of readjustments. The justification for state experiment stations lies in the inability of farmers, because of the small size of the farm units, the varied conditions of soil and climate, and the widespread economic forces involved, to solve their own problems. . . .
>
> "The principal readjustments now in process relate to change in the size of the farm unit, to the substitution of power and machinery for human labor, to the rehabilitation of the labor so released, to the control of commodity production, to new forms of commodities produced for market, to a redirection of marketing processes and institutions, and to changes in levels of living.
>
> "Research must be directed toward the solution of the problems arising out of these readjustments. In my opinion, it would not be out of place for state experiment stations with adequate financial support to take over for a period of years the operation of a series of farms of different sizes and typed so that a study may be made with effective power and machine combinations and of effective farm organization and commodity production. To be sure, it is possible to get post-mortem records from farmers that tell something about what has happened in certain instances. More to the point, however, are directed studies under controlled conditions even though conducted at a financial loss. . . ."

The Experiment Station Section at the 44th Convention in 1930 heard a 10-page report on the Journal of Agricultural Research by Dr. M. C. Merrill, Chief of Publications, U. S. Department of Agriculture, also a report on "The First Five Years of the Purnell Act," by Dr. Walter H. Evans, acting chief of the Office of Experiment Stations.

Directors' Responsibilities for Cooperative Projects

ESCOP's 44th Convention report gave further guidance to experiment station--U. S. Department of Agriculture cooperation. The report was signed by Director J. T. Jardine of Oregon as Chairman. It said in part:

> "Cooperation Between the Stations and the United States Department of Agriculture and the Directors' Responsibility for Such Cooperative Projects. The station director should have the same responsibility in carefully scrutinizing and approving projects that are to be cooperative between the stations and Federal bureaus or between his station and other state stations that exist when the project is limited to the station itself.
>
> "Cooperative projects with the various divisions of the United States Department of Agriculture, including the newly established forest experiment stations, are considered to be highly desirable, but projects involving Adams and Purnell funds must be specific and in harmony with the principles laid down by the Office of Experiment Stations.
>
> "Cooperation will generally begin with the individual workers, and they may well determine the details, but the final consideration and signature of the memorandum of agreement should be accomplished through correspondence between the station director and the chief or head of the cooperating bureau or office."
>
> * * *
>
> "Situations arise occasionally, especially in enterprises or fields of interest, in which the Department of Agriculture finds it necessary to proceed on rather broad lines of research and over wide areas. In some cases these enterprises are undertaken under special legislation. It does not always follow that the experiment station is interested, but on the other hand it may have a vital interest, although not actively engaged in the specific field.
>
> "Your Committee suggests that in all such cases the state station directors be kept informed by the Department's officials in charge, and that the regular reports and project lists be sent to the station directors as a matter of routine."

The Joint Committee on Projects Correlation and Research recommended that the Experiment Station Section appoint a committee of directors to make an intensive study of cooperative relationships between the station or group of stations and the United States Department of Agriculture and report its findings. Directors S. W. Fletcher of Pennsylvania, E. C. Johnson of Washington, and M. J. Funchess of Alabama were named by the section as a committee to study State-Federal cooperative relationships in research. The report of this special committee, taking up eight printed pages in the Proceedings for the 45th Association Convention in 1931 (34), states that the committee had the benefit of the counsel of the experiment stations of all 48 states. The following subheads are evidence of the broad scope of the report:

Notification of Proposed Research
Memoranda of Agreement
Professional Relations of Workers
Mutual Confidence, the Basis of Cooperation
Origin of Cooperative Projects
Federal Field Stations
Cooperation When No State Funds Are Applied
The Function of the United States Department of Agriculture in Research
What Agencies Should Conduct Fundamental Research?
Over-Organization of Research
National Programs in Research

In closing, the special committee said:

"The judgment of the state experiment stations, as evidenced in this survey, is that for the present, at least, the role of the Department in a national system for agricultural research should be that of advisor, contributor, and coordinator, rather than administrator. The Department, with its facilities for travel and observation, and because of its detachment from local influences, could be expected to bring into the cooperation broad and unbiased views of the purposes and relations of research projects. It is in position to coordinate the net results of all local research and to translate them into the broadest and most fundamental meaning.

"This report necessarily has considered Federal-state relations in research from the point of view of the state experiment stations only; doubtless much might be said from the point of view of the Department, also. The Committee recommends, therefore, that this report be referred to the Executive Committee of the Association, with the suggestion that a conference be held with representatives of the United States Department of Agriculture to consider the questions here raised, more particularly the following specific suggestions, which appear to be supported by the majority opinion in the state agricultural experiment stations:

"1. The United States Department of Agriculture to establish and operate field stations or laboratories in any state only in definite cooperation with the state experiment station, as evidenced by memoranda of agreement, with joint responsibility in planning and conducting the investigations, and joint publication of the results, irrespective of whether the work is maintained with Federal funds only, or with Federal and state funds.

"2. The United States Department of Agriculture to advise the director of the state experiment station of any research that it is proposed shall be undertaken within the state, whether this is to be conducted with Federal funds only, or with Federal and state funds jointly; and to furnish an outline of the proposed investigation indicating the objectives and the proposed procedure. The state experiment station to offer suggestions for adapting the project to local conditions and to proffer such facilities for conducting it as may be available. Memoranda of agreement to be necessary only when there is joint leadership and mutual participation in the maintenance of the project.

"3. When formulating and conducting projects of wide scope, in which the participation of the state experiment stations would be desirable, the United States Department of Agriculture should recognize the state experiment stations as cooperators, not merely as contributors, and to reserve for them joint responsibility in framing the project, in adapting it to local needs and in the interpretation and publication of the results.

"4. The United States Department of Agriculture to consider whether the present somewhat divergent policies of the several bureaus, in their cooperative relations with the state experiment stations, could not to advantage be unified by designating a single office to represent all the bureaus in Federal-state relations in research.

M. J. Funchess,
E. C. Johnson,
S. W. Fletcher, Chairman,
Committee."

The special committee's recommendation that a conference be held with representatives of the Department to consider these matters was approved by the Executive Body. Chairman Fletcher, Director of the Pennsylvania Experiment Station, met with representatives of the research agencies of the Department of Agriculture on April 29, 1932. Subsequently, the Department prepared a similar statement presenting the departmental point of view. This was transmitted to the special committee on October 14, 1932, and distributed in November of that year. (35) In its report to the Section on Agriculture during the 46th Convention, the special committee said relative to the departmental statement:

". . . While not meeting the views of the experiment stations in all respects, it impresses us as a sincere and constructive effort to arrive at a common ground of mutual understanding and agreement. The specific recommendations, particularly as to the conduct of Federal field stations and laboratories, and the respective responsibilities of the Federal and State agencies in various types of cooperative research, seems to us to represent a distinct advance over present procedure. . .

"These two reports, wherein the respective points of view of the United States Department of Agriculture and the state experiment stations are presented frankly and in a friendly spirit, are a foundation on which it should be possible to build more effective cooperation."

The special committee filed a comprehensive report at the time of the 47th Annual Convention. It recognized the departmental statement as being in substantial agreement with the first of the above specific suggestions. Relative to the second, the committee said that "The Department Committee takes the position that, to be equitable, such an obligation should be reciprocal, applying to the stations as well as the Department. This, in the judgment of the Department Committee, 'would involve restrictive routine out of all proportion to net results in the public interest.' In the case of research within a state that is not within the field ordinarily covered by the state experiment station, the Department proposed to "communicate with

the state station or stations with a view to opening the way for any incidental cooperation in research that may be found desirable." Relative to the third suggestion, the committee reported that, "The Department report discusses this problem sympathetically, but makes no specific recommendations. Possibly none could be made, for the solution lies not in regulations but in the spirit with which national programs of research are undertaken." Regarding the fourth suggestion, the committee commented that, "The Department report does not discuss this point, nevertheless it is gratifying to note that the several bureau chiefs, in fact, reached agreement in the statement that is now before us. We may fairly assume that this policy will prevail in the future." (36)

Coming as they did prior to passage of the Bankhead-Jones Act of June 29, 1935, and its postwar amendment of 1946 providing authorization of Federal moneys to the experiment stations for regional research, these exchanges of views between the experiment stations and the Department of Agriculture relative to cooperation, served to clarify understanding in principle and to provide a basis for later development of cooperative procedures. During the 48th Annual Convention, the special committee recommended that it be discharged and that in the future similar matters be assigned to the Joint Committee on Projects and Correlation of Research. This was approved by the executive body.

At the 47th Convention in 1933, Dr. A. F. Woods, Director of Scientific Research, presented a 3-page statement on the "Policy of the United States Department of Agriculture in Reference to Research." The Committee on Projects and Correlation of Research, Director F. B. Mumford of Missouri, chairman, followed with a 4-page report which closed with these paragraphs:

> "A careful examination of the projects and programs of research conducted, in the main, cooperatively between the state stations and the United States Department of Agriculture, reveals the following facts standing out in bold relief:
>
> "1. The contributions of the national system of research agencies to the development of agriculture and rural life, by lightening the physical burdens of farming and rural home-making and thus placing rural life on a higher plane than has ever been attained by any other nation, provide a forcible answer to the uninformed criticism that these agencies are devoted themselves largely to the matter of increasing production.
>
> "2. State-Federal coordination and correlation of research effort has attained far-reaching proportions, continues to grow in national importance, and is increasingly successful both in preventing undesirable duplication of effort and in pointing out the way to a balanced rural and national economy."

Research and the Agricultural Situation of the 1930's

As the Nation entered the 1930's, agriculture like every other segment of the economy went deeper and deeper into crisis. The Proceedings of the Land-Grant Association contain many references to "curtailment" and "economies" in operating the institutions and agencies comprising the nationwide system of agricultural research. To fully understand the problems of administration during this period, it is important to read two reports. The first was the "Report on the Agricultural

Situation" prepared by a special committee made up of Dean and Director Thomas Cooper of Kentucky, chairman; Dean and Director H. W. Mumford, University of Illinois; Dr. G. F. Warren, Cornell University; M. L. Wilson, Montana State College; H. R. Tolley, University of California; and L. N. Duncan, Director, Alabama Polytechnic Institute. This report takes up 40 pages in the 46th Convention Proceedings of 1932. (35) The other is the 1933 Report of the National Land-Use Planning Committee to the Secretary of Agriculture and the Association of Land-Grant Colleges, made up of 12 Federal agency heads and 5 representatives of the Association: Provost A. R. Mann of New York; President H. A. Morgan of Tennessee; President F. D. Farrell of Kansas, Chairman of the Committee; President H. L. Shantz of Arizona; and Dean and Director C. B. Hutchison of California. (36)

The agricultural research programs, both at the experiment stations and in the Department, had to be administered with the greatest frugality. Since the death of Dr. E. W. Allen, Chief of the Office of Experiment Stations, leadership in the latter was on an acting basis. On September 16, 1931, Director James T. Jardine of the Oregon Experiment Station was named Chief. He combined the qualities of able scientist with a broad background of successful experiment station administration. He had served for a number of years on ESCOP along with the late Chief, Dr. Allen, and had much to do with development of the Project Outline. Considering the many demands for action programs during the 1930's, the competition for research support, and the need for maintaining the sound principles that had made scientific research in agriculture so productive for nearly 50 years, the agricultural experiment stations were fortunate in the appointment of Dr. Jardine as Chief of the Office of Experiment Stations. As Chief of the Office, Dr. Jardine reported to the Director of Scientific Work. In 1936, Dr. Jardine was made Director of Research and Chief of the Office of Experiment Stations. As Director of Research, he was responsible for all Department research and reported to the Secretary.

Committee on Distribution of Agricultural Publications Abroad

The Hatch Experiment Station Act of 1887 defined as its purpose that "of acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture. . . ." Station directors gave as much serious consideration to "diffusing" as to "acquiring" information from the outset. All of this is documented in many references to publications appearing in the Proceedings. ESCOP itself made it a policy to review the matter of station publications at intervals of approximately 10 years. The Committee made a complete study in 1912. In 1920, it reported that "the mounting cost of printing and paper has made the bills for publications an increasing tax upon the experiment station resources, which in many instances has become a heavy burden." In its report to the 46th Annual Convention, held in Washington, D. C., on November 14-16, 1932, ESCOP faced the publication problem in view of the "policy of retrenchment in the support of all public institutions that is sweeping the country at this time as a result of present economic conditions. . . ." Suggested guidelines were given to help directors answer: "(1) What publication policy shall be followed when funds are reduced? (2) What policy of retrenchment if any should be followed relative to the distribution of station publications?" (35)

At a meeting of the experiment station subsection of the Section on Agriculture at the 45th Convention in 1931 (34), Vice-Director Andrew Boss of the Minnesota Experiment Station presented a statement embodying the report of a special committee of the Minnesota Experiment Station captioned: "The Inadequate Distribution of State Agricultural Experiment Station Bulletins to Foreign Countries." The

report stated: "It is generally recognized that the character of the work of the state agricultural experiment stations has undergone a gradual change during the past 25 or 30 years. In recent years a much larger proportion of the bulletins published are technical in nature. Many of them constitute distinct contributions to science and are of interest to agricultural workers throughout the world." The statement ended, "It is the opinion of the writers that some central agency, by proper cooperation with all of the various state agricultural experiment stations, could render a distinct service to agricultural science in bringing about more efficient exchange of research publications." The recommendation was signed by Drs. J. G. Leach, H. Macy, and C. H. Bailey. At the conclusion of the meeting of the Experiment Station Subsection, a committee consisting of Directors Boss of Minnesota, S. B. Doten of Nevada, B. E. Gilbert of Rhode Island, and Dr. J. T. Jardine was named to study the problem of scientific literature exchange with foreign institutions. (35)

As a subcommittee of ESCOP, the Committee on the Distribution of Experiment Station Publications to Foreign Institutions has made some outstanding contributions It was latent during the years of the defense and pre-World War II period and during the war years. It was revived in 1947 with Director Buchanan of Iowa as chairman. Upon Director Buchanan's retirement, Director H. Macy of Minnesota was made chairman. A report on the progress of the committee was presented to the Experiment Station Section during the 66th Convention held in Washington, D. C., in 1952. The committee has been instrumental in working out a cooperative relation with the Department of Agriculture, with the departmental Library operating as a publication exchange agent with foreign institutions. Surveys by experiment station directors have been made in Central and South America, the Near East, and the Far East.

Research as Related to Planning

Beginning with the Proceedings of the 48th Convention of the Association of Land-Grant Colleges, a new policy approved by the previous year's convention went into effect. From now on, only the proceedings of the general sessions including talks appear in full, also executive body minutes as in the past, standing committee reports, special committee reports, section and subcommittee resolutions, and business items. However, all papers except those given before the general sessions were to be accompanied by an abstract in advance, not to exceed 25 percent of the text. Authors were urged to distribute their full texts in processed form.

The theme of the 48th Convention in 1934 emphasized agricultural adjustment and program planning. The section on agriculture and its subsections heard an address on "Planning the Use of National Resources" by Dr. L. C. Gray, Chief of the Land Policy Section, Division of Planning, Bureau of Agricultural Economics This was followed by a talk on "The Relationship of the Experiment Station to State and Regional Planning" by Director William L. Slate of The Connecticut Agricultural Experiment Station. Director Slate defined planning by quoting from the October 1934 issue of Planning Broadcasts as follows:

> "Planning refers to efforts to guide the physical development of a given area, usually a political unit, along lines most satisfactory for all the people.
>
> "Planning of this sort falls into four stages: (1) gathering the facts bearing on the physical development of the area; (2) subjecting

"these facts to critical scrutiny and analysis; (3) drawing up constructive suggestions on the form of comprehensive plan; (4) keeping this form before the citizens and officials making important decisions affecting the community's growth."

Director Slate then outlined the part he felt the experiment stations, with nearly 60 years of experience in fact finding and research might play in the various national, regional, and State planning efforts. "While the stations have no monopoly on research," Director Slate said, "they do constitute one of the largest if not our largest organized research enterprise. * * * The term 'physical development' connotes land use. Certainly this is our special field. * * * At the risk of being charged with group egotism, I venture one more item in this incomplete list of possible contributions by the experiment stations. Of all persons, the station director is in the best position to know what research is under way, not only in his own state, but in other states and federal departments. He is a sort of clearing house or 'research exchange' in our particular sphere. And equally important, his daily task is to judge the soundness of proposed researches--projects if one prefers the word. In dealing with a large assembled group such as many planning boards use, someone should render that service. . . . The Stations are equipped to do this."

At the morning session of the Experiment Station Subsection, Assistant Secretary of Agriculture M. L. Wilson and Assistant Administrator H. R. Tolley, in charge of the Program Planning Division of the Agricultural Adjustment Administration, had discussed "Some Problems Ahead in Adjustment." Dr. O. E. Baker of the Department had discussed "Population Prospects and Some Agricultural Implications," and Director C. L. Christensen of Wisconsin had spoken on "Research in Relation to Consumption Use." This had been followed by a talk on "Coordination of Research Within the U. S. D. A. and Between the U. S. D. A. and the State Stations. The abbreviation of the name "United States Department of Agriculture," as used in this title of Dr. Jardine's talk, later became the accepted standard of abbreviation.

"Many factors may play a part in a determination of coordination to produce best results for a given research," said Jardine. "Organization and coordination are not an end in themselves. It is our joint responsibility to see that they are not over-emphasized to the point of diminishing returns from the research in question.

"Specific problems for solution may bring in both a local or regional factor and the factor of time to influence or modify the plan of attack when viewed in a national way or in the abstract.

* * *

"As I view the situation, there has been marked progress in such coordination of regional and national scope, and marked advancement in working relationships.

* * *

"In viewing our efforts for effective coordination and cooperation, I should say that many, if not most, of our difficulties arise out of a lack of opportunity for frank personal discussion and understanding of all factors in the individual case. Effort is worth while to develop full understanding as to matters of leadership, finances,

"continuity of work, personnel, credit, publication of results, technic or methodology, and other such items at the time the work is initiated. Complete facts and full understanding are important to continuing effective relationships."

In addition to Dr. Jardine's statement, various USDA Bureau Chiefs had presented their views. The viewpoints of the experiment station directors were summarized in talks by Directors C. E. Ladd of New York, J. H. Skinner of Indiana, P. V. Cardon of Utah, C. T. Dowell of Louisiana, F. J. Sievers of Massachusetts, E. C. Johnson of Washington, and R. Y. Winters of North Carolina.

The Committee on Projects and Correlation of Research recommended that the Association appoint the Committee on Land Problems authorized at the 1933 session. The Experiment Station Subsection of the Section of Agriculture requested the Executive Body of the Association to give serious thought to the urgent need for additional funds for the agricultural experiment stations.

Bankhead-Jones Act and Regional Research

The 49th Annual Convention took place in Washington following passage of the Bankhead-Jones Act of June 29, 1935. The Experiment Station Subsection of the Section on Agriculture on Monday morning, November 18, featured a series of discussions on "The Roles of the United States Department of Agriculture and the State Experiment Stations in Regional Research Programs" by Assistant Secretary M. L. Wilson, Director Jacob G. Lipman of New Jersey, and Director C. T. Dowell of Louisiana. In seeking an answer to the question, "What are agricultural regions?" Dr. Wilson quoted Dr. E. C. Ball, while the latter was a member of the Institute of Political Science at the University of California, as saying that "the first record he can find (of regional research) relates to a conference of directors of some of the New England experiment stations in 1887" and "that there have been more than fifty papers on federal-state cooperation read before the Land-Grant College Association from its inception to 1930." "The forthcoming comprehensive study by the National Planning Committee," Dr. Wilson said, "would go into the question of what constitutes a region."

That evening, the Section on Agriculture's program was a series of talks on the subject "The Planning and Coordination of Research Projects." These were centered around passage of the Bankhead-Jones Act and the increased funds made available through it for agricultural research.

"It is clearly evident from the wording of the Bankhead-Jones Act," said Director L. E. Call in the first of the talks, "that the Congress recognizes in principle the desirability of a coordinated attack upon the problems of agriculture. The intent of the Act is well expressed by Secretary Wallace in his letter of September 11, 1935, to the Directors of the agricultural experiment stations. . . ."

* * *

"In the development and administration of a program of work with Bankhead-Jones funds, it is clearly evident that continuing emphasis must be placed upon carefully planned research projects and that the Act affords the best opportunity yet presented to the state stations and the United States Department of Agriculture to develop a well-coordinated research program from both a regional and national standpoint. . . ."

Dr. Call's paper was a real contribution toward charting some of the principles that were later to be incorporated in the Regional Research Program when the latter was authorized under the 1946 amendment to the Bankhead-Jones Act, frequently referred to as the Research and Marketing Act. Excerpts from Dr. Call's paper are:

"One of the most outstandingly successful efforts to coordinate the research between stations in this country has been that among the northeastern states where for more than 50 years the directors and other station workers have met annually to confer and to coordinate their work. As a result of these conferences much undesirable duplication of work has been avoided. The responsibility for the conduct of certain lines of work useful to all stations has been accepted by some one station and the work of all stations coordinated in a most helpful manner."

* * *

"The lack of a directing agency with sufficient authority to make assignments of projects and thus make certain that all aspects of the problem are covered in a systematic manner has been the chief weakness apparent in the efforts of the past to develop a well-rounded coordinated attack on a problem by cooperating agencies. Unless cognizance is taken of this factor and a plan devised that will provide for authoritative direction it undoubtedly will prove a limiting factor in carrying out a coordinated research program of national or regional application under the Bankhead-Jones Act.

"It is to be expected that the principle of placing funds for cooperative research in the hands of a central directing and coordinating agent will become increasingly more common.

"Experience would indicate that until responsibility for leadership is definitely assigned and recognized by all committee members that the success of coordinated research through committee action does not appear overly promising."

* * *

"If research projects are to be coordinated properly among state stations and between state stations and the United States Department of Agriculture, it is essential that opportunities be offered for conferences not only of administrative officials but yet more important of those engaged in the active project work. Such conferences should be held at sufficiently frequent intervals to provide for both proper organization and direction of the work. The failure of attempts at coordination in the past can be attributed in large measure to the failure or inability of those working on the problem to come together at sufficiently frequent intervals to provide for consultation, continuing interest, and systematic direction of the work.

"It has become increasingly difficult to provide for out-of-state travel for research workers to attend conferences of this kind. In some states it is impossible to secure authorization for a station worker to travel outside of the state for any purpose with his expenses paid from the state funds. In other states the total amount budgeted for

"out-of-state travel is so limited that it is entirely inadequate to provide for such group gatherings. Too frequently travel away from the central station is considered only in the light of junketing trips with a disposition upon the part of governing bodies to curtail strictly the use of funds for this purpose. Until the attitude of governing bodies is changed in respect to this matter or until provision is made to provide from some outside source a fund to enable workers to meet for occasional conferences, it is not to be expected that the progress that is desired will be made in planning and coordinating research projects.

"While considerable progress has been made in the coordination of research projects among the state stations and between these stations and the United States Department of Agriculture, the importance of the problem justifies increasing effort toward more complete coordination. It is thought that this effort might well be centered (1) on the establishment of some directing agency, preferably a Division or Bureau of the United States Department of Agriculture, that will assume responsibility for the organization of the projects in such a way as to insure their being carried in a satisfactory manner as well as to provide for definite responsibility for integral parts, and (2) on the development of a group consciousness upon the part of the individual research worker that will aid in the promotion of successful cooperation. Both of these objectives will be promoted by more frequent conferences of workers engaged in a coordinated attack upon a research problem."

Director F. B. Mumford of Missouri, following Dr. Call on the program, after discussing USDA--Station research coordination said:

"We still have the possibility of planning and coordination between stations. This kind of planning has been developed in the New England States and in the Southern States to a greater extent than in other regions. It is a tendency which should be encouraged. It will do much to meet the criticism that there is much overlapping and duplication in the State experiment stations."

The Section of Agriculture on Tuesday afternoon, November 19, heard Dr. Jardine outline "A Research Program Under the Bankhead-Jones Act. After outlining the program along lines of the letter sent out by the Secretary of Agriculture (Attachment J), Dr. Jardine remarked:

"Some of the differences in viewpoint and understanding were apparent before the rules and regulations set forth in the Secretary's letter of September 11 were prepared. The situation was met by the statement, in paragraph 2 of the Secretary's letter, that the broad authorization as to lines of work for which the funds may be expended as set forth in Section 1 of Title I, will be the basis for decision as to eligibility of projects. This statement in the Secretary's letter is coupled with the statement that every effort should be made to formulate and develop a strong coordinated program of research basic to major problems of agriculture."

He then cited several examples of proposals received and said:

"These are given as illustrations, not as specific suggestions or recommendations. I might continue indefinitely with examples but these few are sufficient to show the intent of the proposal to develop a strong

"coordinated program of research basic to major problems of agriculture. Such action is not different from what is being done in much of our research on other funds. It was intended merely to direct attention to the need, the desirability, and the opportunity for further purposeful effort along this line under the new fund."

* * *

"For many years the State station directors and representatives of the Department have jointly considered the questions of research coordination and State-Federal relationships. As the Assistant Secretary pointed out, no less than 50 papers on relationships had been read before the National Association up to 1930. Following the passage of the Purnell Act, the Joint Committee on Projects and Correlation of Research established subcommittees to assist in formulating and carrying forward research along certain lines agreed upon as national in scope. Out of this joint effort effective research, such as the cooperative corn improvement investigations, has developed. As pointed out in the annual reports of the Committee on Projects and Correlation of Research, the extent of State-Federal cooperative research has increased and the character of such research has broadened and become more important. Cooperation of a number of States with several bureaus of the Department is not uncommon. We now have, as matters of record, completed researches in which all 48 States have participated in cooperation with the Department, and there are about 700 undertakings annually in which one or more States cooperate formally with one or more bureaus of the Department."

* * *

"You might well ask then, what shall be our course? My answer would be that the rather broad authorization of Section 1 of Title I of the Act will be the basis of decision as to eligibility of research proposals for support under this fund, but that over the next five years a Bankhead-Jones program should be developed which is outstanding for coordinated effort on State, regional, and national problems. I am confident that this can be done without undue neglect of purely State problems, without sacrifice of State integrity or authority, and in the interest of public confidence and support of research. The basis of action should be not compulsion, regulation, or regimentation, but purposeful effort on the part of research workers and research administrators."

Excerpts from the subsequent talk by Director F. B. Mumford of Missouri on "Interpretation of the Bankhead-Jones Bill" include the following:

"It would seem from the first part of this description of 'laws and principles,' that the same type of work authorized under the Purnell Bill is also indicated in this provision of the Bankhead-Jones Bill, the principal difference being that in the Bankhead-Jones Bill there is added a clause which seems to encourage research relating to conservation, development, and use of land and water resources for agricultural purposes."

Among differences of opinions regarding interpretations, Director Mumford included the following:

"3. There seems to be particular emphasis on regional research, or rather the establishment and maintenance of research laboratories in the major agricultural regions. There is no requirement in the law that the projects undertaken by these research laboratories shall be regional projects, although the inference may be so drawn. It is also entirely within the power of the Secretary of Agriculture to so determine. If such an interpretation is made, does it follow that the new projects undertaken by the State experiment stations shall also give preference to regional problems? It does not seem to me that this interpretation would be desirable.

"4. What significance is to be given to the statement in section 2 that 'research similar to that authorized under section 1 to be conducted by agricultural experiment stations established or which may hereafter be established in pursuance of the Act of March 2, 1887, providing for experiment stations, as amended and supplemented,' etc. Do the provisions of the Hatch Act apply to the conduct of research under the Bankhead-Jones Bill? If so, to what extent?

"5. In section 1, emphasis is placed upon 'new and improved methods' and 'new and extended uses and markets for.' Does this apply only to the special research fund administered directly by the Secretary of Agriculture? If it does apply, how are we to interpret the qualification of new research? All research is new, even though the subject of research may be as old as civilization.

"The research provisions of the Bankhead-Jones Bill, which are new and different from any previous Federal legislation appropriating funds for State agricultural experiment stations, seem to be the following:

"1. A definite proportion is appropriated to the United States Department of Agriculture and its expenditure is entirely under the control of the Secretary of Agriculture.

"2. The construction and maintenance of research laboratories in the principal agricultural regions by the Secretary of Agriculture seems to be mandatory.

"3. Emphasis is given to 'new and improved methods' and to 'new and extended uses and markets.'

"4. 'The Secretary of Agriculture is authorized and directed to prescribe such rules and regulations as may be necessary to carry out this act.' This provision is entirely different from any provision heretofore included in Experiment Station legislation. Under this provision it is possible for the Secretary of Agriculture to specify the subjects of research, even the methods to be employed, under the broad authority of 'rules and regulations.' There seems to be in this provision an opportunity for possible arbitrary rulings which might be destructive to the highest development of the scientific spirit.

"5. The funds which may be used for buildings and land are not restricted in the bill.

"6. The funds may be used 'for printing and disseminating the results of research.' Apparently the funds may be used for printing results of

"any research and is not restricted to results of research undertaken with Bankhead-Jones funds."

ESCOP recommended a reconsideration of "the functions of the two standing committees, namely the Joint Committee on Projects and Correlation of Research and the Committee on Experiment Station Organization and Policy. Its report also included the following:

"The establishment of regional research laboratories in major agricultural regions, as provided for under the Bankhead-Jones Act, affords not only opportunity, but necessity, for group thought on the part of the station directors with a view to formulating principles of policy basic to effective relationships in this new feature in research. Your Committee is advised that this subject, which was in mind for consideration by the Committee, is to be reported upon by the Joint Committee on Projects and Correlation of Research. Therefore, we direct your attention to the importance of this subject and recommend that the Experiment Station Section give this subject the fullest consideration with a view of agreement on essential principles of policy and procedure."

The following excerpts from the report of the Joint Committee on Projects and Correlation of Research pertain to principles recommended with respect to regional research and the regional laboratories:

"Your Committee, therefore, again recommends that the Experiment Station Section and the Executive Body continue to give their encouragement and support to the increasing and developing movement towards cooperation in research in the solution of problems of regional and national significance. It is recognized that the law places the responsibility upon the Secretary of Agriculture for the selection of projects and location of laboratories in the major agricultural regions. It is felt, however, that it will be beneficial if the Secretary considers the recommendations of the bureaus and the State experiment stations, as he has done, and will locate the laboratories solely on the basis of technical needs of the work and the facilities available. Your Committee further recommends the following essential philosophy as the basis of sound relationships in the establishment and administration of the regional laboratories provided for under the Bankhead-Jones Act:

"1. That these regional laboratories be made cooperative in the fullest sense consistent with the responsibility placed upon the Department by the Congress.

"That the State institutions, especially the State experiment stations, fully recognize the regional, rather than local, obligations of any such laboratory established under the provisions of the Act, and recognize the obligation that this feature places upon a State institution and a State experiment station in case such a major regional laboratory may be established on its campus.

"That wherever feasible a regional laboratory decided upon will be located at an existing State or Federal experiment station or branch thereof in order to secure the greatest possible coordination of effort in research and the fullest use of educational forces in carrying new research findings to farmers.

"4. That such laboratories be established as focal points for specific research program of closely related projects within the agricultural region and not in the broader sense of agricultural research institutions for many lines of work.

"5. That to the maximum extent consistent with effective research of such laboratories, the existing facilities at selected institutions be used and a minimum of funds expended for additional physical plant facilities, including land and buildings. This policy will conserve funds and will be helpful in establishing and maintaining the desired cooperative effort.

"6. That for each such laboratory established there shall be a Cooperating Council, consisting of a representative of each bureau of the Department engaged in research at the laboratory and of each State experiment station within the major agricultural region served by the laboratory; that members of the Council will be appointed collaborators of the Department in order to facilitate their work; and that specialists of the State experiment stations engaged in the regional research program also will be appointed collaborators of the Department as may be required. This provision is deemed highly desirable inasmuch as the success of the regional laboratories will depend upon whole-hearted cooperation between the Department and the group of States within a region as a whole, and whole-hearted cooperation among the research workers.

"7. That for each laboratory established a memorandum of understanding will be entered into by the Department and the State experiment stations of the major agricultural region indicating the nature of the work to be conducted and the approximate amounts to be expended on the different lines of research under way, the source of these amounts, and the relationships and responsibilities of each agency. This provision is suggested to promote understanding, and not with any idea of restriction on the part of any agency involved. The objective should be voluntary, whole-hearted participation and cooperation in support of any laboratory established in order to obtain more significant results for each of the States as well as the Department and thereby result in greater benefits to agriculture."

The special committee appointed "to consider the functions of the Committee on Experiment Station Organization and Policy and the Joint Committee on Projects and Correlation of Research presented the following report" which was approved by the section:

"1. That these two committees be continued.

"2. That the membership of the Committee on Experiment Station Organization and Policy be enlarged to include six experiment station directors and the Chief of the Office of Experiment Stations, ex officio; that the terms of office of the station director members be three years with two members retiring each year.

"3. That the Section of Experiment Station work be invited by the President of the Association each year to submit nomination for membership on the Committee on Experiment Station Organization and

"Policy.

"4. That the Committee on Experiment Station Organization and Policy, among its regular functions, be charged specifically with the responsibility of representing the Experiment Stations in advising with the Secretary of Agriculture and other officials of the United States Department of Agriculture in matters pertainent to the administration of the research features of the Bankhead-Jones Act.

"5. That the Committee on Experiment Station Organization and Policy be urged to meet as frequently as conditions, in its opinion, justify."

In 1936, when the Association held its 50th Annual Convention at Houston, Texas, cooperation and coordination continued as an important topic for consideration by the experiment station group. Dr. Jardine spoke before the Experiment Station Subsection on "The Use of Bankhead-Jones Funds to Promote A Coordinated Program of Research." Among other important principles outlined in his statement were those that helped formulate policies on where to locate regional Bankhead-Jones laboratories. Their location would be determined, he said, "on the basis of technical needs of the proposed research and the facilities available, and whenever feasible will be located at an existing federal or state experiment station or branch thereof; the nature of the research to be undertaken; the relationships of the laboratory and the laboratory program to the state stations, and their respective programs and the part that each agency will take in the laboratory program will be worked out through joint conference of directors and their staffs and the representatives of the federal bureaus concerned."

The 1936 program of the subsection also included a series of talks on subjects related to progress in and the future of agricultural research by Directors C. B. Hutchison, California; J. G. Lipman, New Jersey; W. C. Coffey, Minnesota; Chris L. Christensen, Wisconsin; R. Y. Winters, North Carolina; and Dr. A. G. Black, Chief, Bureau of Agricultural Economics. There was also a report of the Joint Committee of the Land-Grant College Association and USDA on "The Conservation and Use of Our National Phosphate Resources for the Permanent Benefit of the American People." ESCOP's recommendations included one urging a joint conference with USDA's Soil Conservation Service for the purpose of developing a memorandum of understanding between that Service and the several stations relative to research in soil erosion control. It also pointed to the "desirability of completing the National Soil Survey at the earliest possible date consistent with effective work. . . ." Recommendations relative to the latter were:

"1. The National Soil Survey should be organized on a greatly enlarged scale in order that a soils inventory of all the agricultural areas of the United States may be completed within a 10-year period.

"2. In providing for the suggested organization and expansion of the survey, the endorsement and cooperation of the National Resources Board should be secured.

"3. The technical and administrative work of the survey should be concentrated in the Bureau of Chemistry and Soils, with provision for close cooperation with other Federal and State agencies.

"4. A National Advisory Committee should be appointed, consisting of representatives of the State Agricultural Experiment Stations to assist

"in coordinating the whole system of soil surveys in the country.

"5. Funds to support the enlarged program of the soil survey should be secured through direct congressional appropriations supplemented, as far as possible, from funds of other Federal and State agencies.

"6. The field activities of the survey should be allocated among cooperating states on the basis of their need for information, but with due regard to national interests.

"7. Cooperation should be established with all agencies interested in aereal mapping, so as to make rapidly available aereal maps for all agricultural counties where satisfactory topographic maps have not been prepared. The use of aereal maps will greatly reduce the time necessary for the completion of the soil survey and it will reduce the actual field cost about one-half. (Topographic maps are now available for about 25 percent of the area of the United States.)"

The minutes of the Executive Body state, "Approval was given to a recommendation by the Committee on Experiment Station Organization and Policy that the Association associate itself with the Secretary of Agriculture in an effort to obtain sufficient Federal funds to complete the soil surveys in this country within perhaps the next 10 years, and the Executive Committee was authorized to lend such assistance as it could, and to appoint any committee that seemed desirable for cooperation on the technical side." (39)

Fiftieth Anniversary of Experiment Station Research

Many papers commemorating progress made by the agricultural experiment stations since passage of the Hatch Act appear in the Proceedings of the 51st annual convention of the Association held in Washington in 1937. (8) The program for the general session included a talk by Dean and Director F. B. Mumford of Missouri on "Colonel William H. Hatch, Author of the Original Agricultural Experiment Station Bill." Director Mumford's paper contains considerable background with regard to the history of the original experiment station legislation. Numerous other experiment station bills had been introduced prior to Congressman Hatch's bill. Director Mumford quotes Hatch as saying on March 3, 1886, in a speech before Congress:

"Agriculture experiments are not a new thing. They are as old as the tillage of the soil. Until recently the existing state of agriculture was almost exclusively a result of centuries of crude experimentation. But it is only since the theories of Liebig were organized into working institutions (the Experiment Stations) that experiments have been so conducted as to furnish a helpful and authoritative rule of practice. A scientific experiment is made, not for the purpose of seeking or sustaining a theory, but of learning a fact. It must be conducted, as far as possible, under ascertained and controllable conditions; and, where that is not possible, intelligent allowances for the variation must be made and stated. Each step must be accurately observed and verified, and this process must be repeated, under identical conditions, times enough to eliminate every form of error. . . ."

The program of the Subsection on Experiment Stations included 11 papers by station directors and other station leaders, also one each by Chief J. T. Jardine and R. W. Trullinger of the Office of Experiment Stations. The latter dealt with

"The Policies and Procedure Involved in the Hatch Act from the Standpoint of Efficiency in Administering Productive Research." (Attachment K). It provided a thorough administrative analysis of the legal basis for and an interpretation of the original Hatch Act and subsequent authorizing acts for Federal-grant appropriations. The 1946 amendment to the Bankhead-Jones Act and the 1955 Hatch Act as amended, consolidating the various authorizing acts, were still to come, but Trullinger's 1937 analysis continues as an important document for those seeking a practical interpretation and understanding of the legal basis for operation of the Federal payments-to-States program.

The report filed by the Joint Committee on Projects and Correlation of Research during the 51st Convention deserves careful reading. It was presented by Dean and Director F. B. Mumford of Missouri who until the previous year had been chairman of this committee since its creation in 1913, a period of 24 years. The report points to many achievements made as the result of the committee's activities, including the development of the project outline, memoranda of understanding between the departmental research bureaus and the experiment stations, and considerable strides in USDA--Experiment Station cooperation. The following excerpt is of special significance:

> "Information supplied by the Office of Experiment Stations indicates that further substantial progress was made during the year in expanding cooperative-coordinated attack in research work of the United States Department of Agriculture and the state experiment stations. Efforts in this direction were aided by provisions of the Bankhead-Jones Act with its additional funds and through the assignment to the Office of Experiment Stations of the new functions of Director of Research and the administration of the funds under the Bankhead-Jones Act. Nearly 1,200 new or revised formal cooperation research projects between bureaus of the Department of Agriculture and the state experiment stations were approved by the Office of Experiment Stations. These projects in which all of the state agricultural experiment stations and all but one of the research bureaus of the Department of Agriculture participated, covered nearly 1,000 major researches. There were also many informal cooperative agreements between organized regional and national groups of stations, and in some cases between such groups and the United States Department of Agriculture.
>
> "The Committee heartily commends the action taken by the Experiment Station Section of the Association this year in arranging for discussions on interstate cooperation in research. It is believed that the procedure agreed upon for establishing regional laboratories under the Bankhead-Jones Act has fostered closer cooperation and coordination not only between the United States Department of Agriculture and the state agricultural experiment stations, but also among the state stations themselves. Regardless of the source or sources of incentive, it is gratifying to note that broadly important regional or national researches have been undertaken on a cooperative-coordinated basis outside the Bankhead-Jones regional laboratory set-up. . . ."

ESCOP's report concerned itself with desired relationships between USDA and State agencies in research under the "Norris-Doxey" Act, known as the Cooperative Farm Forestry Act. ESCOP recommended "that research under the Farm Forestry Act should be from the beginning established and carried forward in cooperation with the State Agricultural Experiment Stations."

USDA and On-Campus Relationships

ESCOP had no formal report to present during the 52nd Annual Convention in 1938, but problems of relationships continued to dominate the Sectional programs. Director R. E. Buchanan, of the Iowa Station, spoke on "Should It Be The Function of the Land-Grant College to Implement All Federal Programs in Agriculture?" He presented a clear delineation between research and action programs of the Department. He emphasized the need for close cooperation in all research programs and emphasized the need for such cooperation wherever possible in the following paragraphs:

> ". . . whenever an agency of the U.S.D.A. enters a state with the expectation of undertaking research, there should first be secured a formal approval and if possible active cooperation on the part of the station. In other words, the Land-Grant College should attempt to implement on a cooperative basis all federal research programs in agriculture carried on within a state. As we have seen in some cases, federal and state legislation may interfere with the complete realization of the ideal.
>
> "May I venture to hope that no one will in the future try to differentiate activities of the U.S.D.A. and the Stations in research on the basis of the former being fundamental and general and the latter practical and local.
>
> "The researchers of the Department and Stations have the same training and reasonably adequate facilities for their work. In general they work together satisfactorily. The solution of fundamental problems may come from either group or even more probably from cooperative effort."

The Experiment Station Section heard Wisconsin's Associate Director Noble Clark talk on "The Relationship Between Experiment Station Research and General University Research". Director Wm. A. Schoenfeld of Oregon and R. W. Trullinger of the Office of Experiment Stations spoke on "The Problem of Division of Time Between Experiment Station and College Work of Staff Members Doing Both Research and Teaching". The Experiment Station Section also discussed "Researches Into New Uses and Outlets for Agriculture Crops and Products", with papers by Dr. James T. Jardine, Director R. E. Buchanan, Iowa, and Director L. E. Call, Kansas. (40) The following year, during the 53rd Convention in 1939, Director F. B. Mumford of Missouri presented a paper on "A Wider Recognition of Agricultural Research". Director C. E. Guterman of Cornell and Dr. James T. Jardine spoke on: "Important Current Problems in the Administration of Agricultural Research".

Taking up a major relationship problem, namely that of getting and holding desirable cooperation between scientists in various highly specialized fields, Dr. Guterman commented:

> "There is another administrative problem which is constantly confronting experiment station directors - the balance between fundamental and applied, or practical, research. We must maintain a reasonable balance between fundamental research on the one hand, and applied, or practical, research on the other, because, as we all know, the practical reseults emanating from our stations are only as good as the fundamental work upon which they are based. The problem of strengthening and supporting our basic research would be materially simplified if more publicity were given to this phase of our work. At the present time, all that the public ever hears about is the application of the results of research. In dealing

with members of farm organizations, legislators, and the general public, we should discuss our fundamental as well as our applied research, and should emphasize the fact that the two must go hand in hand if we are to solve effectively the problems of agriculture." In giving support to Guterman's thesis, Dr. Jardine added: ". . . In addition, we have a responsibility to plan carefully our program of fundamental research and to promote such well-planned research with courage. In further development of cooperation and coordination between departments within the stations, between stations in a region, and between stations and and the Department of Agriculture, the possibility of integrating and strengthening the fundamental research is important. Long-time fundamental research is expensive. There is difficulty in maintaining scope and vigor of such research as needed in relationship to applied research. The problem is a challenge to administrators and research workers." (41)

Research for Defense and World War II

The administrative problems facing experiment station directors and agricultural research administrators increased in intensity as the Nation entered the defense period of the late 1930's. Great strides had been made since the advent of the Purnell Act toward correlating Station and Federal research. But closer cooperation and administration under the correlated programs also required more frequent meetings. Item 12 of the minutes of the Association's Executive Body in 1939 records approval of the following recommendation made by the Sub-section of Experiment Station Work:

"Moved, seconded and adopted that in view of the increasing amounts of business affecting policies and work programs of the Agricultural Experiment Stations, the Sub-section feels it desirable for the Committee on Experiment Station Organization and Policy to hold at least two interim meetings during the year. Under this plan, the Committee will be in a position to be more helpful to the Executive Committee on all matters pertaining to Experiment Station Work in its relationship to other business of the Association."

Requests for Marketing and Consolidation Legislation

During this period experiment station directors were also considering proposals that, although destined to be shelved during the subsequent World War II years, led later to enactment of Federal marketing research legislation in 1946 and to the consolidation of the separate experiment station acts into the Hatch Act as amended in 1955.

During the 1938 convention the Executive Body of the Association accepted a report of the Experiment Station Sub-section on a National Research Program in Marketing and Distribution of Agricultural Commodities. Recognizing the problems of mal-distribution of products grown in abundance as a result of research in the physical sciences, the report said:

"The land-grant colleges believe that the great problem of distribution, or the economics of consumption, will yield to the methods of scientific research just as do the problems of production. It is appreciated that this is a highly complicated matter; that it must be met in many different areas and approached through many different sciences.

"The colleges believe that ultimately marketing and distribution will be attacked on as broad a front and with as great resources as now obtained in the field of production."

The report was signed by Directors Chris L. Christensen of Wisconsin, chairman, and Clyde McKee of Montana, secretary. It proposed an immediate calling together of a conference approved by the Secretary of Agriculture and the Association, "looking toward an assembling of such funds and manpower as can be made available in both institutions, and their immediate correlation in a well-planned and coordinated research attack on the problems of the distribution of agricultural products". Furthermore, it urged that "the Secretary and the Executive Committee together ask business and commercial groups, and other departments of government, to join in this program to the end that distribution in all fields be made more efficient". (40)

Directors H. P. Cooper (Kentucky), L. E. Call (Kansas), and W. L. Slate (Connecticut Agricultural Experiment Station at New Haven) were designated as members of a Special Committee on a National Program of Marketing Research. They consulted with Departmental officials. The 1939 minutes carry a 2-page report recommending the various agricultural fields in which cooperative marketing research was recommended and in which marketing committees were to be set up. The report closed with this paragraph:

"At the end of the conference the Secretary said 'The Department of Agriculture should be enthusiastic about this plan'. He further indicated the Department's intention to cooperate and he agreed that the Division of Marketing and Transportation Research, Bureau of Agricultural Economics, be the agency with which the groups of committees begin to work." (41)
At the 54th convention in 1940, the Executive Committee recommended "a comprehensive and well coordinated attack on the problem of agricultural marketing and distribution to be embodied in a revised marketing bill". The principles of the proposed bill were stated in the recommendations. The proposed bill was approved by the Association's Executive Body during the 55th convention held in Chicago, Illinois, on November 10-12, 1941, three weeks before Pearl Harbor. (43)

The 1941 convention also approved the following report by ESCOP relative to Consolidation of Federal Research Legislation:

"The Committee on Experiment Station Organization and Policy has analyzed the present federal legislation relating to grants-in-aid to research in agriculture in the Land-Grant Institutions, has selected from each of the nine pertinent Congressional Acts those parts which it regards as essential, and has carefully combined these essential parts into a Bill which would have the maximum of advantage and the minimum of disadvantage to the Agricultural Experiment Stations in fulfilling their historical functions. This Bill has then been analyzed to determine both the advantages and the disadvantages which would accrue to Station research if it were enacted, likewise the dangers which might develop if the Bill as outlined should be altered or amended during the passage in such a manner as to eliminate any element that we have regarded as essential, or to incorporate any undesirable feature.

"The Committee on Agricultural Experiment Station Organization and Policy recommends:

(a) That an informal discussion or hearing with appropriate members of the Bureau of the Budget be requested, at which hearing there should be presented a clear picture of the approach of the Land-Grant Colleges in making as objective an analysis as possible of the proposal to consolidate the Federal Acts, and that there be a careful review of the advantages and disadvantages of such consolidation.

(b) That the Bureau of the Budget be informed that in the opinion of the Land-Grant College Association the disadvantages of consolidation sufficiently outweigh the advantages to make the consolidation even under the most favorable conditions inexpedient and inadvisable.

(c) That if the Bureau of the Budget concludes that, notwithstanding the objections on the part of the Land-Grant Colleges, the advantages outweigh the disadvantages and that a Bill is to be introduced into Congress effectuating the consolidation, the Land-Grant College Association should assist actively in the preparation of a Bill retaining the essentials of appropriate legislation as these have been determined. Further, the Association should retain complete freedom of action, and oppose vigorously any amendment or change of the bill in any manner regarded as disadvantageous." (43)

During the first wartime (1942) convention the Executive Body accepted the following recommendation made by ESCOP with concurrence of the Agricultural Experiment Station Sub-section:

"That the Committee on Agricultural Experiment Station Organization and Policy be authorized to inform the Bureau of the Budget that it is in the opinion of the Association of Land-Grant Colleges and Universities an inopportune time during the war emergency to take up the problem of rewriting and consolidating the various congressional acts which carry authorization for the appropriation of federal funds to the Agricultural Experiment Stations. Further, this Committee will not pursue the matter until such time as there is a request from the Bureau of the Budget."

In 1942 ESCOP also recommended authorization for the introduction of a bill to subsidize during the emergency a research program relating to human nutrition. A similar bill had been proposed in the previous year but the Executive Committee had asked that no further action be taken with reference to pending legislation except completion of increments from authorized appropriations. ESCOP pointed out that the proposed bill related "entirely to authorization for emergency research on human nutrition and the nutritive value of foods. * * * Under the terms of the proposed bill funds would be authorized for research by the several Agricultural Experiment Stations and for cooperative research between the States and the Federal Government". The Executive Body referred this recommendation back to the Executive Committee "for further analysis and consideration".

ESCOP's efforts in connection with this proposed measure finally bore fruit following World War II when an "expanded research program in home economics" both in the Department and at the Agricultural Experiment Stations was authorized in

the Hope-Flannagan bill, later referred to as the Research and Marketing Act, and legally designated as the "Amendment to the Bankhead-Jones Act and the Agricultural Marketing Act of 1946".

Potash Resources and Soil Survey Committees

Several subcommittees and collateral special committees stimulated by ESCOP leadership presented some major reports during the pre-war period. Some of these clarified problems created by the appointment of various action agencies in the Department. For a number of years there had been a Committee on Conservation and Proper Use of National Potash Resources. Its final report was adopted by the Executive Body in 1939 and the Committee discharged. The Special Joint Committee on Research Monographs filed a comprehensive report in the same year. In 1939 the Executive Body also received from ESCOP a report of the Special Committee on National Soil Survey. The report pointed out that:

> "For 40 years the Federal government and the states have been cooperating in the development of a basic soil survey, but through lack of adequate financial support this soils inventory of the agricultural lands of the country is only about 40 per cent complete. Without basic soils information, land use adjustment may be of no permanent value and may even prove disastrous. The recent establishment of numerous planning and action programs, supplied with abundant funds and under a mandate to produce immediate, tangible results, has intensified the demand for a basic soil survey. . .There are now two independent Federal agencies doing soil survey work - the Soil Survey Division of the Bureau of Plant Industry and the Division of Conservation Surveys of the Soil Conservation Service."

The Committee recommended recognition of two different types of surveys; that the basic survey of the agricultural lands be completed as soon as practical; that the agency responsible for making the basic soil survey employ a body of scientificall trained persons charged specifically with this duty; and that efforts be made to secure funds for completion of the basic survey. A similar report was filed in 1940 and the committee continued in an advisory capacity to ESCOP. The subcommittee made an exhaustive study of the problems involved and in 1941 a 6-page printed report was accepted by the Executive Body. It presented a clear analysis of the problem, made specific recommendations involving (1) broad principles of policy, (2) mapping procedures and maps, and (3) achievement of action. In order to get the latter, the Committee recommended that ESCOP "transmit these recommendations to the Secretary of Agriculture with the urgent request that the Secretary give serious consideration to the reorganization of the Federal Soil Survey program along the lines recommended".

Experiment Station Program Summaries

The Committee on Projects and Correlation of Research, in the next to its final report, made in 1941, pointed to annual summaries prepared by the Office of Experiment Stations as an important instrument of achieving correlation:

> "The Office of Experiment Stations has this year prepared a very complete summary showing the extent to which correlation and cooperation in agricultural research have been attained by and between the several State Stations and the Bureaus of the United States Department of Agriculture. The record of achievement in this cooperation is one in which everyone concerned has reason for great pride. Such an annual summary has been made for many years

by the Office of Experiment Stations; and examination of these reports shows clearly that progress in securing more and better teamwork has been continuously accelerating.

"Because this summary requires too much space to permit its inclusion in this Committee Report, it is recommended that the Association of Land-Grant Colleges and Universities request that such an annual summary be published each year in a way which will make it easily available to all Stations and Department workers. . ."

ESCOP Request to Participate in Federal-Grant Budget-Making

In 1940, during the 54th Annual Convention, the latter's Executive Body voted to approve as presented the following report of ESCOP:

"I. Whereas all funds allocated by Congress for the research of the Agricultural Experiment Stations are appointed through the U. S. Department of Agriculture, and

"Whereas many of the funds allocated to the various Bureaus and Offices of the U. S. Department of Agriculture, and

"Whereas there has been no formal presentation of the research needs of the State to the Secretary by the Land-Grant Colleges,

"It is therefore the recommendation of the Committee on Experiment Station Organization and Policy that the Executive Committee definitely authorize the Station Committee,

"(1) To prepare such materials and arguments as may be pertinent, and present them in conjunction with members of the Executive Committee to the Office of Experiment Stations for consideration in the preparation of the budget of the Secretary.

"(2) In cooperation with the Executive Committee to present the point of view of the Stations to the Budget Bureau with reference to agricultural appropriations.

"(3) In cooperation with the Executive Committee and at its direction make such appearances as may be necessary at hearings before the Senate and House.

* * *

"II. The Committee recommends that certain changes be made in the constitution of this Committee. It is recommended that:

"(1) The Secretary of the Subsection on Experiment Stations be made a member ex-officio of this Committee, with the suggestion that he serve also as Secretary of the Committee. It is important that this officer be kept in touch with the Committee and be in a position to act as a liaison officer between Committee and Subsection.

"(2) Add to the appointed members of the Committee two additional Directors of the Agricultural Experiment Stations, making a committee of eight members.

"(3) Change the tenure of committee members appointed in the future from three to four years, two members to be appointed each year.

"(4) Make four appointments to the Committee at the Chicago meeting, November, 1940, two for a term of three years and two for a term of four years.

"(5) Make appointments in the future so that as soon as possible the committee will consist of two representatives of each of the four major agricultural regions of the United States. This will make possible a much closer coordination between the members of the Committee and the Directors' Associations of each of the four regions."

ESCOP and COMMITTEE ON PROJECTS and CORRELATION Combined

The preceding pages of this summary have given ESCOP, created in 1905, and the Committee on Projects and Correlation, created in 1913, equal prominence with respect to their contributions to station policy development. From 1913 to 1942 the two committees existed side by side. The Committee on Projects and Correlation was a joint committee of the Association and of the Department. Through the years it included on its membership the Chief of the Office of Experiment Stations. As early as the 49th convention held in 1935 (see pp. 43 and 44), ESCOP had pointed out that "There are now two standing committees of the Association dealing with questions of research - the Joint Committee on Projects and Correlation of Research and the Committee on Experiment Station Organization and Policy", and subsequently recommended "A reconsideration of the functions of the two standing committees . . ." At the time, however, a special committee appointed to look into the matter had recommended the two be continued. (27)

The two committees were combined in 1942 during the 56th Convention on recommendation of the Experiment Station Section and approval by the executive body. The Section had recommended:

"1. That the Committee on Experiment Station Organization and Policy and the Joint Committee on Projects and Correlation of Research be merged into one Committee to be designated as the Committee on Agricultural Experiment Station Organization and Policy.

"2. That the duties of the Committee are to include all duties of the two Committees merged, including all matters relating to agricultural and home economics research.

"3. That the Committee be composed of three directors from each of the four major agricultural regions, each committeeman to be appointed for a term of four years, the Secretary of the Section on Experiment Station Work, and the Chief of the Office of Experiment Stations, ex-officio.

"It shall also include one woman from each of the four major agricultural regions likewise appointed for terms of four years, and the Chief of the Bureau of Home Economics and the Principal Administrator of Home Economics of the Office of Experiment Stations, United States Department of Agriculture, ex-officio. These six women shall constitute the Subcommittee of Home Economics.

"4. It is suggested that ex-officio membership on the Committee include:

"Secretary, Section on Experiment Station Work.
James T. Jardine, Chief, Office of Experiment Station, U. S. Department of Agriculture.
Dr. Louise Stanley, Chief, Bureau of Home Economics, U. S. Department of Agriculture.
Miss Sybil T. Smith, Office of Experiment Stations, U. S. Department of Agriculture.

"It is expected that this Committee will divide itself into such subcommittees as are needed for consideration of problems of research of the Agricultural Experiment Stations, relations among Stations, and relations to research of of other agencies, particularly of the United States Department of Agriculture.

"It is recommended further, that for consideration of special problems and with consent of administrators involved, the Committee may invite individuals from Bureaus of the United States Department of Agriculture or from subject-matter departments of the Agricultural Experiment Stations to serve on special subcommittees." (44)

The 1942 changes in the ESCOP organization had been preceded by a change of the research organization in the Department of Agriculture. There the former position of Director of Research was abolished and an Agricultural Research Administration created. Under the reorganization, the Chief of the Office of Experiment Stations also became an Assistant Administrator of the Agricultural Research Administration.

ESCOP's Record of Leadership

This summary has covered the period of ESCOP history from its beginning until 1941, the year for which mimeographed copies of ESCOP minutes are available. In addition to the various policy-forming activities summarized above, there were numerous activities of a collateral nature stimulated or initiated by ESCOP and undertaken by its subcommittees or by special joint committees. There were, for instance, the growth and development of home economics research, recorded in the Home Economics section of the proceedings, strengthened subsequently by ESCOP's subcommittee on Home Economics. ESCOP's direct and indirect support given to inclusion of home economics in the Purnell Act provisions, and later in the bills and proposed legislation leading to the 1946 Amendment of the Bankhead-Jones Act, contributed greatly toward bringing national recognition to home economics and human nutrition as an important branch of science.

The yearly reports of the Joint Committee on Publication of Research and the numerous special considerations and studies, like Director Griffee's survey of Experiment Station Publications and Mailing Lists in 1940, the Committee On Distributions of Agricultural Publications Abroad, and its several successors including the ESCOP-ECOP Joint Committee on Agricultural and Home Economics Publications approved at the 1957 meeting held at Denver, Colorado, are all proof of the fact that throughout the years Experiment Station Directors have put top priority on the dissemination of information useful to agriculture as well as on obtaining it. These various collateral activities reveal a long-sustained interest and will warrant individual treatment and summarization.

In the World War II years, especially in connection with formulating the 1946 Amendment to the Bankhead-Jones Act and the Agricultural Marketing Act, the later consolidation act of 1955, and also in connection with administrative matters dealing with Departmental research reorganization, experiment station directors designated by ESCOP, either as members or as members of subcommittees or special committees have continued to assert intellectual and scientific leadership toward formulating sound and well-thought-through principles and policies relating to the Nation's agricultural research.

As the minutes available for the period commencing with 1941 will show, ESCOP as a body, and the experiment station directors in general, continue to demonstrate that they are persons of high intellectual capacity, courage, and balanced administrative judgment. Once they have discussed freely and factually the problems involved in any issue, they abide by the decision reached and enter into wholehearted cooperation. This kind of leadership through the years has given vigor to the progress of agricultural research. It has stimulated a genuine State-Federal partnership in which Federal cooperation is based on the now well-established principle of "participation rather than control".

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ATTACHMENT A

UNITED STATES DEPARTMENT OF AGRICULTURE
Office of the Secretary
Washington, D. C.

March 20, 1906.

To the Directors of the Agricultural Experiment Stations:

Congress having passed the Adams Bill, which provides for an increased annual appropriation for agricultural experiment stations, and the measure having been approved by the President, it becomes my duty to undertake the administration of this law.

In order to facilitate the prompt and effective organization of work under this Act, and to provide for a proper accounting for expenditures authorized by said Act, I have prescribed a schedule for the report of such expenditures for the fiscal year ending June 30, 1906, and until further orders, in accordance with section 2 of said Act. Copies of this schedule will be sent later.

The Director of the Office of Experiment Stations is hereby designated my representative in all matters relating to the business of this Department in connection with the administration of this law, and the Office of Experiment Stations will aid in promoting effective work under this Act in the same general way as it has heretofore in relation to the Hatch Act.

Under the terms of the Act, it will be necessary that a separate account of the Adams fund shall be kept at each station, which should be open at all times to the inspection of the Director of the Office of Experiment Stations, or his accredited representative.

In the interpretation of this Act and the examination of the work and expenditures of the stations under it, I have instructed the Director of the Office of Experiment Stations to be guided by the following principles:

The Adams fund is "to be applied only to paying the necessary expenses of conducting original researches or experiments bearing directly on the agricultural industry of the United States." It is for the "more complete endowment and maintenance" of the experiment stations, presupposing the provision of a working plant and administrative officers. Accordingly, expenses for administration, care of buildings and grounds, insurance, office furniture and fittings, general maintenance of the station farm and animals, verification and demonstration experiments, compilations, farmers' institute work, traveling, except as is immediately connected with original researches in progress under this Act, and other general expenses for the maintenance of the experiment stations, are not to be charged to this fund. The Act makes no provision for printing or for the distribution of publications, which should be charged to other funds.

In order that there may be no doubt as to the disposal of the Adams fund, each station should outline a definite programme of experimental work to which it will devote this fund, and expenses for other work should not be charged to it. The work contemplated by this Act will, as a rule, necessarily cover more than one year, and changes in the programme once adopted should not be made until the problems under investigation have been solved, or their solution definitely shown to be impracticable. This will give ample opportunity for making plans for winding up any particular piece of work and beginning another with such deliberation as will provide for the suitable and economical expenditure of this fund

without resort to doubtful expedients or expenditures. It is much to be desired that this fund shall be a strong incentive to the careful choice of problems to be investigated, thorough and exhaustive work in their solution, and the securing of permanent and far-reaching results on which can be safely based demonstration and verification experiments leading to the general improvement of farm practice in many particulars.

No change will be made in the attitude of this Department toward expenditures under the Hatch Act. The Hatch fund should be as carefully guarded as ever, and be devoted to substantial experimental work and the printing and dissemination of the results of such work.

The increased liberality of the Federal Government in providing for the endowment of research and experimentation in agriculture should be a further incentive to the States and local communities to supplement these funds for the extension of demonstration experiments, farmers' institutes, agricultural colleges, schools, and courses of instruction, and the general education of the rural communities along industrial lines, in order that the masses of our farmers may be so educated from early youth that they will appreciate the benefits of original research and experimentation as applied to agricultural problems, and be able to appropriate in the most effective manner for their own benefit and the general welfare of the Nation whatever practical results are obtained from the work of the agricultural experiment stations.

Very truly yours,

/s/ James Wilson

Secretary.

ATTACHMENT B

UNITED STATES DEPARTMENT OF AGRICULTURE
Office of Experiment Stations
Washington, D. C.

February 25, 1909.

Dear Sir:

The examination of the expenditures from the Hatch fund during the past two years has brought out the fact that there is a growing tendency to use that fund for printing, correspondence, administration and other miscellaneous purposes connected with the general business of the stations, and this has materially reduced the amount used for carrying on definite experimental work. It is believed that this is an unfortunate tendency and in many cases practically amounts to a diversion of the Hatch fund from the purposes for which it is intended.

Reference to Sections 4 and 5 of the Hatch Act will show that the Hatch fund was created to "pay the necessary expenses of conducting investigations and experiments and printing and distributing the results."

Various causes have contributed to the increasing use of the Hatch fund for the general purposes above mentioned. Among these is the increase of State appropriations for the stations, which in many cases have taken the form of appropriations for special investigations, demonstrations, or substations, without provision for printing or the general administrative business of the station. The recent rapid growth of enterprises in agricultural extension has brought much pressure on the stations to aid in this work through issuing popular publications, correspondence, etc.

The existing conditions make it necessary for this Office once more to define its position with reference to the expenditure of the Hatch fund. As is well known, our administration of that fund has been progressive. In the earlier days of the stations, it seemed necessary that there should be considerable liberality exercised in order that the stations might become well established and gain the confidence and support of their constituency. At the outset, however, use of the Hatch fund for inspection service was forbidden. Later on expenditures for substations and the management of the farmers' institutes were disallowed. Now it becomes necessary for us to hold that expenses for extension work should not be charged against the Hatch fund, and that only such printing should be done with that fund as will record the experimental work of the stations established under the Hatch Act. This will rule out compilations, bulletins of substations, and a variety of publications which are useful in extension work, but are not included within the terms of the Hatch Act.

It is urged that each station shall, as far as may be necessary, change its policy of expenditure of the Hatch fund so as to devote a large share of that fund to definite experimental work, restrict the expenditures for printing as indicated above, and put administrative and miscellaneous expenses as far as possible on other funds.

(More)

Beginning with July 1, 1909, it will be expected that all charges for extension work and printing of compilations will be eliminated from the Hatch fund account.

This action is not intended to hinder the development of extension work, the value of which I greatly appreciate. This Office will always be glad to do anything in its power to aid the agricultural colleges in securing funds with which to thoroughly organize and develop extension work along the lines of agriculture and country life.

Very truly yours,

/s/ A. C. True

Director.

ATTACHMENT D

Letter from the Secretary of Agriculture to Governors of the States Outlining Policy of USDA--States Relations in Research, Extension, and Regulatory Work

Washington, February 23, 1923.

Dear Governor:

In view of the cooperative relations which this department is forming from time to time with various agencies, I am venturing to bring to your attention the policy which we observe in our cooperative relations with the State public agencies.

In all regulatory work and matters of law enforcement, we cooperate with the State department of agriculture, or such law enforcement agencies as the State may have created.

Our research work, if done in cooperation with the States, is carried on with experiment stations of the land-grant colleges.

Our extension work in agriculture and home economics is carried on with the extension divisions of the agricultural colleges. This cooperation is made mandatory in the Federal Smith-Lever Law itself, the provisions of which have been accepted by the State legislatures. We also have an agreement with the State agricultural colleges to the effect that any Federal funds which may come to this department direct from Congress for extension work with the various States will be expended for work carried on in cooperation with the extension divisions of the State agricultural colleges.

I am informed that the National Association of Commissioners, Secretaries, and Departments of Agriculture and the Association of Land-Grant Colleges have endorsed and recommended this general plan of administration, and that it is spreading rapidly. General development along this line, it appears, will enable the Federal government to cooperate with the different State agencies without confusion of functions.

The above, in brief, states the principles which guide us in our cooperative relations with the States and which, I trust, may be in accord with your general views.

Sincerely yours,

(Signed) Henry Wallace,
Secretary.

Beginning with July 1, 1909, it will be expected that all charges for extension work and printing of compilations will be eliminated from the Hatch fund account.

This action is not intended to hinder the development of extension work, the value of which I greatly appreciate. This Office will always be glad to do anything in its power to aid the agricultural colleges in securing funds with which to thoroughly organize and develop extension work along the lines of agriculture and country life.

Very truly yours,

/s/ A. C. True

Director.

ATTACHMENT C

Report of the Joint Standing Committee on Projects and Correlation of Research

The Joint Standing Committee on Projects and Correlation of Research was appointed for the purpose of studying the research projects now active in the Federal Department of Agriculture and in the State Experiment Stations. It seeks:

1. To determine if there now exists any wasteful, unnecessary or perhaps harmful duplication of effort within these agencies.

2. To recommend general principles which may be applied at this time, to the end that public funds may be more efficiently and economically utilized.

3. To suggest definite opportunities for the correlation of investigative projects, planned with a view of solving the same or similar problems.

4. To determine the facts, to interpret the results, and to make recommendations, in order that greater efficiency may be obtained; in some cases by hastening the completion of important work and in others by securing the advantages which may be derived by a combined attack on the same problem at the same time at several locations.

The committee has undertaken to make as careful and complete a survey as may be made of existing research projects in the State stations and the Federal Department. This survey has not been completed. Every station director has been asked to file a list of the projects now active in his station, and two-thirds of them have supplied this information. The printed program of work published by the Federal Department indicates the nature and scope of its research projects. The committee now has on file a list of about 1,200 investigative projects located in the stations and about 750 in fht Federal Department. No final generalizations as to the extent of duplication can now be made. However, the information already available justifies the statement that the duplication is frequent and that in part it may be avoided by voluntary cooperation through conference of investigators.

The committee believes that if the information now on hand touching station projects were made available in some such way as is done by the Federal Department in connection with its published program of work, a most valuable means would be afforded of bringing about cooperation of effort and greater efficiency and economy would be secured. It hopes to present at the next convention of this Association a reasonably complete list of the active research projects of the several stations similar to the previously mentioned departmental list.

W. A. Taylor
J. G. Mohler
Milton Whitney
W. R. Dodson
Jacob G. Lipman
F. B. Mumford

On motion, the report of the joint committee on projects and correlation of research was received.

Proceedings of the Thirtieth Annual Convention of the Association of American Agricultural Colleges and Experiment Stations, Washington, D. C., Nov. 15-17, 1916, p. 133.

ATTACHMENT D

Letter from the Secretary of Agriculture to Governors of the States Outlining Policy of USDA--States Relations in Research, Extension, and Regulatory Work

Washington, February 23, 1923.

Dear Governor:

In view of the cooperative relations which this department is forming from time to time with various agencies, I am venturing to bring to your attention the policy which we observe in our cooperative relations with the State public agencies.

In all regulatory work and matters of law enforcement, we cooperate with the State department of agriculture, or such law enforcement agencies as the State may have created.

Our research work, if done in cooperation with the States, is carried on with experiment stations of the land-grant colleges.

Our extension work in agriculture and home economics is carried on with the extension divisions of the agricultural colleges. This cooperation is made mandatory in the Federal Smith-Lever Law itself, the provisions of which have been accepted by the State legislatures. We also have an agreement with the State agricultural colleges to the effect that any Federal funds which may come to this department direct from Congress for extension work with the various States will be expended for work carried on in cooperation with the extension divisions of the State agricultural colleges.

I am informed that the National Association of Commissioners, Secretaries, and Departments of Agriculture and the Association of Land-Grant Colleges have endorsed and recommended this general plan of administration, and that it is spreading rapidly. General development along this line, it appears, will enable the Federal government to cooperate with the different State agencies without confusion of functions.

The above, in brief, states the principles which guide us in our cooperative relations with the States and which, I trust, may be in accord with your general views.

Sincerely yours,

(Signed) Henry Wallace,
Secretary.

ATTACHMENT E

UNITED STATES DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY

Washington, D. C. May 20, 1925.

Subject: Administration of the Purnell Act.

TO THE DIRECTORS OF THE AGRICULTURAL EXPERIMENT STATIONS:

The administration of the Purnell Act, with which the Department of Agriculture is charged, will be guided by the following general principles:

The underlying purpose of the Act is "the more complete endowment and maintenance of agricultural experiment stations," a fact which recognizes the existence of an experiment station in each State as a going concern with an organization, administrative machinery, buildings, lands, and other basic facilities for research. In view of this and since the States are making substantial contributions toward the support of the stations, it would seem that general and overhead expenses such as apply to administration and upkeep, the care of buildings and grounds, maintenance of the farm and livestock, and similar ordinary expenses, might readily be cared for without drawing upon the new fund. It is the expectation, therefore, that the demand on the Purnell Fund for general overhead expenses of the station will be reduced to the minimum.

The new Act is designed to add to and strengthen the work of investigation: it directs that the funds appropriated in accordance with it "shall be applied only to paying the necessary expenses of conducting investigations or making experiments [in lines which are defined,] and for printing and disseminating the results of said researches." It is important, therefore, that the fund should represent definite pieces of investigation of substantial character, such as is called for in the present stage of agricultural inquiry.

With this idea in view, it will be expected that expenditures from the Purnell Fund will be limited to those incurred primarily for specific investigations, with such charges for publication and for special buildings and lands as pertain directly thereto. The list need not be wholly restricted to new projects, but may include existing ones which it is desired to strengthen.

This will enable the Purnell Fund to be administered on the same general plan as that followed with the Adams Fund; namely, on the basis of a program of specific projects and a budget for expenditures, these to be submitted annually in advance for consideration and discussion in order that a good understanding may be reached. It is the more important because of the provision for expansion of investigation in several comparatively new fields, and the possibility of applying the fund to existing projects in other lines. All projects supported partly or wholly from the Purnell Fund should therefore be submitted in outline in advance for examination and approval as to their suitability to the new appropriation.

Since an annual financial report on the Purnell Fund is required under the Act, it will not be possible to pool it with other funds, but a separate account upon it will be necessary, and the above plan will facilitate such an accounting. Where the support of projects is shared in by other funds, it should be possible to show

(More)

quite definitely what the Purnell Fund is being used for. As in the case of the Hatch and Adams Funds, the account should be a current one, and should be supported by a set of vouchers readily available for examination on due notice. The classification will be on the same basis as for other funds, and the financial report will be rendered on the same blank with them.

The Office of Experiment Stations has been designated to represent this Department in matters relating to the details of administration of this law, and will aid in the promotion of activities under this Act in the same general way as it has heretofore in relation to the Hatch and Adams Acts. It will also be represented in negotiations for cooperation between the Department and the experiment stations, and will maintain a file of such cooperative agreements.

Sincerely yours,

/s/ W. M. Jardine
Secretary.

ATTACHMENT F

Recommendations Made by the Experiment Station Committee on Organization and Policy with Reference to General Principles To Be Adopted by the Association of Land-Grant Colleges on the Basis of Policy in the Administration of the Purnell Act and Approved Subsequently by the Association at Its Thirty-Ninth Annual Convention, November 19, 1925

"In order to provide for definite action, the committee recommends that the following general principles be adopted by the association as the basis of policy in the administration of the Purnell Act.

"(1) This act is supplementary to the two previous ones for experiment stations. It is to build upon what already has been provided. It is for a going concern, and it is not designed to relieve the states of their financial obligations. It is for new investigation or putting new force into work already under way.

"(2) As it is supplementary and for increasing investigation, general overhead charges, except such as relate to the support of definite projects, are not considered to be warranted. The purpose which the fund is to serve will stand out more clearly if its admixture with other funds in the support of projects is held down to the minimum. To scatter it unduly and in small amounts over projects supported mainly from other funds will increase the task of administration and may suggest that it is being dissipated.

"(3) The Purnell Act is designed to promote sound investigation in accordance with modern conceptions of that term and the present status of knowledge. Progress at this stage calls for clear-cut, concrete proposals. This implies analysis of complex problems and the study of individual features by the most adequate means that research has disclosed, with the constant aim of strengthening methods and making inquiry more penetrating.

"(4) Only a relatively small field in the several branches of a station can be covered at a given time. Hence the plan of concentrating on a few topics in each field and making the work comprehensive, thorough, and conclusive is highly important. A few things should be done well rather than many things indifferently.

"(5) A systematic, well-rounded research program promises more at this stage than a fortuitous, disconnected set of projects. It enables a more adequate attack on the selected topics and a better related whole.

"(6) The problem is the natural unit in the organization of research on many-sided subjects. A relationship will thus be established between the research in production and that in economics, sociology, and the home, as a basis for 'the establishment and maintenance of a permanent and efficient agricultural industry.'

"(7) The importance of cooperation and coordination within the stations, between stations, and with other agencies is now so definitely indicated as to make it a leading principle of administration. It is emphasized by the new fields of economics and rural life into which the stations are expanding. The breadth of many problems and their similarity in different sections favors joint effort in place of unrelated action. It is logical that the United States Department of Agriculture and the experiment stations should work in close cooperation, and every effort should be directed to that end.

(More)

"(8) Effective research requires trained workers, with a sound background in science quite as much as in their specialites. The need for investigators with vision, initiative, and keen perception is imperative at the present stage. The securing of such qualifications will require the maintaining of a high standard of requirements and the making of positions sufficiently attractive to warrant the necessary preparation.

"(9) The experiment station is one of the primary features of the college. Responsibility for discharging its functions does not cease with its administrative officers, but is reflected on the parent institution. Sympathetic recognition and support of the essentials for research, the type of workers required, and the adjustment of their duties are fundamental to the meeting of just expectations under the new act.

"(10) The administration of an experiment station has become a large and exacting matter. It has assumed an importance it has never had before. It calls for breadth of understanding and cricical judgment in research, coupled with organizing ability and a familiarity with the leading problems of agriculture. With rapid growth in prospect, effective direction will call for time to study the whole situation--the needs of the state, the proposals submitted, the organization of joint efforts, and the maintenance of contacts with the progress of the work. Upon wise administration will depend in the first instance the effective use of the large new appropriations for agricultural research.

E. W. Allen,
F. D. Farrell,
J. T. Jardine,
H. G. Knight,
R. W. Thatcher,
Committee."

ATTACHMENT G

A RECOMMENDATION BY THE COMMITTEE ON EXPERIMENT STATION ORGANIZATION AND POLICY, ON OUTLINING PROJECTS 1/

More Critical Scrutiny Still Needed in Outlining New Research Projects

The importance of improving or maintaining standards of experimental station research and to this end the need for careful study of project plans for new projects were discussed by the Committee on Experimental Station Organization and Policy in 1925 and again in 1926. Yet, so far as your committee is able to judge from individual experience and information available as to general practice, there is still opportunity for improvement, and there is still need for more careful scrutiny on the part of project leaders and administrative officers in outlining new research projects so as to insure "concrete investigations of such limited range as to make them feasible of accomplishment" within reasonable time.

The authorization of new projects is an important administrative matter, and merits the most careful consideration and cooperation of the research leader and his co-workers with the responsible administrative officers in narrowing the proposed investigation to a concrete phase of a problem looking to conclusions with minimum qualifications.

Practices and policies followed at different experiment stations in initiating a new piece of research or in drawing up and adopting a research project differ widely. The plan followed depends in part at least upon the size of the station staff and upon the way in which the different directors are accustomed to handle administrative business. The methods in vogue may be roughly classified as follows:

(1) The director takes full responsibility in passing upon projects.

(2) The director appoints a standing committee to act in an advisory capacity and to make a careful study of all projects submitted.

(3) The director calls into conference members of the station staff who are in a position to contribute to the study or the drafting of the project.

Whatever the method of procedure the leader of the proposed project should assume responsibility for knowledge and analysis of previous investigation, or investigations under way, which may have a bearing on the research proposed by him. In like manner, he should be prepared to support his proposed methods of investigation as adequate for accomplishment in the research proposed, and feasible of being carried out with the facilities and equipment which may be made available.

After thorough consideration of these matters, the next important task is to formulate a project statement which pictures for administrative officers, other investigators, and co-workers the merits of the project, its objective, procedure in the proposed investigation as to technique and methods, the probable period of time and its reasonableness, and the funds required and their adequacy for the proposed work.

(More)

1/ Proceedings of the 41st Annual Convention of the Association of Land-Grant Colleges and Universities, Chicago, Illinois, November 15-17, 1927.

Your committee recommends as a policy to research workers and responsible administrative officers more careful scrutiny of new projects, keeping in mind:

The Title. This should characterize the concrete, limited unit of work to be undertaken and not cover the entire field to which the project is related.

The Objective. It should be clear cut and specific, and not involved with statements of procedure.

The Outlook. The project should be constructive in character. It should take account of the status of the question, attack points which need further study, supplement other work, exhibit vision and ingenuity, and give prospect of success.

What, specifically, is it proposed to add to the sum of knowledge of the subject? Such a contribution may deal with some new point, or those still in doubt, or determine applications to the conditions in the region.

The Procedure. It should be up-to-date, representing the progress and current views on methods and technique. It should give data that will stand statistical analysis and be comparable with other similar accepted data. Does it cover the requirements of the subject, or is it one sided or inadequate in some respects?

Thoroughness. The project should be designed to undertake thoroughly and with reasonable completeness the investigation of the subject and should not be fragmentary and superficial.

Probable Duration. Is the time element a reasonable one? Does the project commit the station to a course it may not be desirable to carry through?

The Funds Required. Is the estimate ample for the proposed investigation? Are the expenses and other essentials within the means of the station budget?

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ATTACHMENT H

Cooperative Research With Commercial Enterprises and Interests 1/

The establishment of the agricultural experiment station as a publicly supported research institution was based upon the premise that the results accruing from research in the field of agriculture benefited all society. That this premise was correct has been amply demonstrated by the broad application that has been made of the results of such research. Since research in this field benefits all society, it should be supported not by a single class or by a few groups of especially interested classes, but by society as a whole. Commercial agencies, therefore, that have a particular interest in such work because of its close relation to their own activities can usually best serve their own interests, those of the stations, and of the general public by using their influence to secure for the station adequate financial support from public funds.

When public funds are not available for the conduct of research of a special character for which there is urgent and immediate need, private grants from commercial agencies may make possible the securing of prompt results and thus serve both these interests and those of the public.

There is ample evidence that experiment stations and the farmers whom the stations serve have profited materially by contacts and cooperation with commercial enterprises and interests. The committee feels, therefore, that under certain definite limitations and conditions it is proper for the experiment stations to accept grants for agricultural research from such agencies. The following general conditions are laid down as the basis for a broad policy:

1. The research supported in this way should be of general public importance and in the field of the agricultural experiment station.

2. All such researches should be institutional and not cooperative with individual departments or staff members, and salaries and other expenditures should be handled through regular institutional channels.

3. Carefully worded project agreements should be drawn, setting forth the nature and purpose of the project, and the conditions under which the grant is accepted and is to be used. In this the interest of the station and of the public should be safeguarded in the same way as research under other station funds, and the right to patent any discovery be reserved to the institution.

4. Results should first be made public through the regular station channels, whether favorable or unfavorable to the cooperating agency.

Outside Work and Relationships of Station Staff

The question of part-time employment or acceptance of fees for extra service rendered to outside agencies is one that needs to be considered from time to time by practically all staff members and administrative officers. Your Committee

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1/ Policy Recommended by the Committee on Experiment Station Organization and Policy, November 21, 1928.

has given serious consideration to this matter and realizes the difficulty of setting up definite policies that would be applicable under all conditions. There are certain general policies, however, which we feel might aid in guiding both staff members and directors.

1. As a general rule it seems inadvisable for station employees to accept fees or to engage in any regular work for compensation while they are employed as full-time research workers on an experiment station staff.

2. Where outside work of any nature is permitted a definite understanding should be had as to the nature of the service, time required, and compensation.

3. It is realized that there are so many different aspects to the question of accepting compensation for writing that it is difficult to set up a definite policy which would always apply. This, however, should be a matter of administrative control, and should exclude articles promoting the sale of particular agricultural commodities. Articles using unpublished research material of the station or committing the institution to any practices or policy should have the approval of the regular authorized agency of the institution.

H. W. Barre,
L. E. Call,
J. C. Kendall,
C. A. Mooers,
E. W. Allen,
J. T. Jardine, Chairman,
Committee.

ATTACHMENT I

Experiment Station Travel 1/

The item of travel is becoming an increasingly large one. The reason for this lies to considerable extent in the nature of the investigation, that in some of the newer lines especially requiring workers to spend much time in the field collecting data and studying conditions. But apart from this, there has been an increased tendency in the direction of conferences of various sorts and meetings of investigators for quite general discussion.

The growth of travel brings increasing pressure on directors, and its efficient regulation constitutes a troublesome administrative problem. Coupled with that of other branches of the colleges, it has attracted the attention of authorities outside the institutions and resulted in restrictive action.

While to large extent the matter is one for local determination, certain general principles may be stated which will aid in individual cases. The Committee therefore presents the following:

1. Official travel of the experiment stations should be subject to administrative regulation and supervision. It should be based on authorization in advance, the application setting forth the nature and need of the travel and the approximate expense.

2. Station travel should be restricted to that quite definitely connected with the prosecution and administration of the work in hand, or in the interest of individual and institutional efficiency. Interruptions of the research staff need to be safeguarded, as well as the expense of travel.

3. Annual allotments of funds to be used by departments for travel at will is not regarded as wise administrative policy. If the nature of a project warrants a general allotment or authorization for travel, to cover trips and field work as may be necessary to it, notice of departure and length of absence in individual cases ought to be filed in the director's office for his information.

4. Travel in attendance on meetings or in maintenance of professional contacts deserves to be carefully weighed, in order that it may be made as profitable as possible and applied to the more important occasions. The interests and opportunity of the staff as a whole need to be conserved.

5. Attendance of technical workers on scientific meetings is desirable and justified within the means of the institution, and deserves liberality in its encouragement. In addition to the information and viewpoint which such meetings may impart, they are an important stimulus to workers and afford opportunity for personal growth and for recognition advantageous to the institution.

   Since the staff member and his institution both benefit from attendance at such meetings, it would seem just for the individual to meet a part of the expenses when authorized to attend

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1/ Policy recommended by Committee on Experiment Station Organization and Policy, November 13, 1929.

as an institutional representative with part of his expenses paid.

The presentation of contributions should be encouraged, although attendance may not be conditioned on such participation. For the benefit of the staff who remain at home, the making of informal reports of attendance on important scientific gatherings is desirable, in helping to extend the benefits of such occasions and developing the spirit and the fraternity of science.

6. Attendance on conferences should be based on a definitely stated purpose and program, applicable to the station's research. The advantage to the station should be the main consideration in determining its participation. Indefinite and ill-defined proposals for "getting together," "to make contacts," and "to talk things over" deserve to be looked upon askance. Conferences, committee meetings, and constructive movements have an undoubted place in the advancement of research, particularly that which is cooperative or in collaboration with others; but to be profitable such gatherings need to be governed by a well-considered plan and program, and without some form of follow up they may lack permanent results. Many matters can be settled quite as satisfactorily by letter. Frequently written proposals may receive more studious consideration than those presented for hasty conclusion in conference.

7. Out of state travel has been the subject of quite close restriction in a considerable number of states, sometimes imposing a serious handicap to the experiment stations. While such travel should be intelligently controlled in the interest of economy of time and of funds, it often is quite necessary and may be equally as profitable as travel within the state. Research and the promotion of its interests cannot be confined within state boundaries, and no state can safely depend wholly on its independent efforts. Cumbersome restrictions and requirements regarding outside travel often react unfavorably. They retard the development of cooperation and coordination in lines where there is community of interest, and they deprive the state's representatives of participation in such efforts and in maintaining scientific contacts which are important to their investigations.

UNITED STATES DEPARTMENT OF AGRICULTURE

OFFICE OF THE SECRETARY

Washington, D. C. September 11, 1935

Subject: Administration of the Bankhead-Jones Act.

TO THE DIRECTORS OF THE AGRICULTURAL EXPERIMENT STATIONS:

The Bankhead-Jones Act, providing for research into basic laws and principles relating to agriculture and to provide for the further development of cooperative agricultural extension work and the more complete endowment and support of land-grant colleges, approved June 29, 1935, places responsibility for administration of the research features of the Act upon the Secretary of Agriculture. Title I of the Act, in so far as it deals with research by the agricultural experiment stations, will be administered by the Office of Experiment Stations, designated to represent the Department of Agriculture in all matters relating to the administrative details in the expenditure of the funds allotted, and to aid in the promotion of research activities under this Act and their coordination with other agricultural research following the same general relationships now followed in the administration of the Hatch, Adams, and Purnell Acts.

The major underlying purpose of Title I of the Act, which deals with research, is to provide more adequately for thoroughgoing coordinated research into laws and principles underlying basic problems of agriculture in its broadest aspects, and research along defined lines into other features of agriculture. While the broader authorization as to lines of work for which the funds may be expended, as set forth in Section 1 of Title I, will be the basis for decision as to eligibility of projects, every effort should be made to formulate and develop a strong coordinated program of research basic to major problems of agriculture.

In this connection attention is directed to provisions of the Act making available a "Special Research Fund" for expenditure by the Department of Agriculture and to the language of Title I, Section 2, which authorizes and directs the Secretary of Agriculture to encourage research by the State stations similar to that authorized for the Department.

The annual appropriation act of the Department of Agriculture also provides that the Secretary of Agriculture shall coordinate the work of the Department of Agriculture with that of the State agricultural colleges and experiment stations. Therefore, the desirability of selecting subjects for study and of organizing research at the experiment stations under the Bankhead-Jones Act, so that the work may be logically and effectively coordinated, so far as practicable, on a regional basis with similar research being conducted

or contemplated by the Department of Agriculture seems apparent. The Office of Experiment Stations will be expected to advise and assist the experiment stations in this respect to the fullest extent possible in order that advantage may be taken of the larger organization and more adequate facilities incident to integrated and coordinated attacks of this character within regions on common basic problems of agriculture.

The new Act specifies in Title I, Section 1, that the research authorized to be conducted by the Department of Agriculture shall be in addition to research provided for under existing law, but that both activities shall be coordinated so far as possible. While this limitation appears not to apply as strictly to the experiment stations, at the same time it is felt that the provision is applicable to the extent that research initiated under the new Act might well be directed to a study of those basic laws and principles which must be better understood before there can be permanent solution of practical problems now under study. In this same connection, the Act also specifies in Title I, Section 3, that sums appropriated for agricultural research to be conducted by the experiment stations shall be in addition to and not in substitution for sums appropriated or otherwise made available for agricultural experiment stations.

Considering the present needs of agriculture locally, regionally, and nationally for a greater body of basic facts and principles upon which to build sound agricultural practices, these would appear to be wise provisions. Following the maturity of the Adams Act in 1911, there was an increasing recognition of the need for making greater use of results of scientific research in the service of agriculture and rural life. The efforts by the stations to accomplish this without lowering scientific standards or interfering with unbiased search for fundamental facts have been noteworthy but not wholly encouraging in many instances. Even in some of the better financed experiment stations this situation has been acute, owing to the frequent practice of earmarking State appropriations, thereby confining their use largely to practical adaptation and service application of the results of research. In the light of the more rigid modern needs of agriculture based upon regional and national concepts of efficient and economical production, research is necessarily being forced into consideration of causes of observed phenomena and the principles governing their manipulation and integration into useful practices. Accordingly modern research cannot be content with empirical observations and results, either in the production or in the economic fields. The new Act, and especially the provisions noted above, would seem to encourage this fundamental consideration by specifying that the funds authorized are available for basic research and also by prohibiting their substitution for the appropriations already provided for the support of research. In this respect, the Act appears to offer special encouragement and support for the type of research into problems of agriculture which many of the stations have heretofore felt unable to undertake with the limitations and restrictions placed upon their resources.

For example, the field of pasture development is revealing aspects of both regional and national importance. It is bristling with widely applicable fundamental problems of plant breeding and genetics, soil fertility, animal nutrition, economics, and the like, most of which have necessarily remained practically untouched in their broad aspects. Similarly, the fields of animal production and animal diseases include many uncharted areas of fundamental character which have served as barriers to most effective production and control or cure of disorders of considerable economic importance, both regionally and nationally. Other important fields of research might be mentioned where, of necessity, major effort in the past 25 years has been devoted to empirical testing and experimentation and in which permanent progress has been retarded by the lack of adequate attack on the fundamental aspects.

The new Act appears to open the way to acquire some of this important foundation knowledge which is now lacking. The wisdom of careful analysis of experiment station programs, locally and by regions, to identify the more important basic problems of agriculture is obvious. A high degree of coordinated research effort within stations and between stations in regions seems essential to the best use of the new fund, especially in view of its present rather limited amount and the manner of its distribution. For these reasons, also, coordination with similar work, which the Department of Agriculture may undertake under the new Act or under its current appropriation, would seem to be a worthwhile objective, not only from the standpoint of the provision of more adequate facilities and a broader and more mature point of view, but also with the prospect that effective results from the new work may thereby be made available more quickly than through the necessarily more limited efforts of individual institutions.

Section 5 (a) of Title I provides that no allotment and no payment under any allotment shall be made for any fiscal year in excess of the amount which the State or Territory makes available for such fiscal year out of its own funds for research and for the establishment and maintenance of necessary facilities for the prosecution of such research. There is further provision that any sums withheld by the Secretary through failure of any State or Territory to provide the necessary offset under the above provision may be allotted by the Secretary, with certain limitations, to other States or Territories which have provided funds from State sources in excess of the amount of the Federal allotment under the Act for the fiscal year in question. To administer these provisions wisely and effectively will require a high degree of cooperation. Each State and Territory should file adequate information with the Office of Experiment Stations far enough in advance of June 30 each year to enable the Secretary of Agriculture properly to ascertain and certify to the Secretary of the Treasury on or before July 1 the amount that each is entitled to receive the succeeding fiscal year, beginning July 1, under the Bankhead-Jones Act. Such statements may provide only estimates as to offset funds in case the respective legislatures have not acted upon appropriations for the experiment station by the time adequate information must be

filed with the Office of Experiment Stations. However, inasmuch as payments to the States are to be in accordance with the general provisions of the Hatch Act, which authorizes deductions from the succeeding fiscal year to cover disallowances during the closing year, certification to receive the Federal allotments can be made on the basis of acceptable estimates of offset funds subject to adjustment through quarterly payments within the year and final adjustment, if necessary, in the first quarterly payment of the succeeding year.

Section 3 of Title I provides that "sums appropriated in pursuance of this title shall be in addition to, and not in substitution for, appropriations for research or other activities of the Department of Agriculture and sums appropriated or otherwise made available for agricultural experiment stations". It seems obvious that Congress, in thus specifying that sums mentioned in the new Act, when appropriated, must be in addition to, and not in substitution for, sums appropriated or otherwise made available for agricultural experiment stations, meant that it would be using the Bankhead-Jones funds "in substitution" if a State should fail to provide funds for a phase of research work formerly financed by funds available from any or all State sources and the Bankhead-Jones funds were used for such research. Here again a high degree of cooperation will be imperative in carrying out this provision of the Act. The representatives of the Office of Experiment Stations necessarily will be expected to ascertain, with care, that funds from State sources have not been reduced and funds from this new Act substituted therefore in a manner contrary to the provisions of the Act. Funds from State sources, as indicated in the provision quoted, will include, in addition to State appropriations for research, sales funds derived from research activities and properly belonging to the experiment stations, fees, gifts, cooperative contributions, allotments of institutional funds, and funds from any other source for research by the agricultural experiment station. The wording of the above provision is such that similar care necessarily will be exercised to avoid substitution of the Bankhead-Jones funds for other Federal-grant funds of the Hatch, Adams, and Purnell Acts and the use of the released funds in any way which might be interpreted as substitution resulting in a reduction in the financial support for research. Should evidence develop that the Bankhead-Jones Act funds have been used "in substitution", the Secretary of Agriculture will be obliged to consider action appropriate to the individual case in certification as to the amount of subsequent allotment to which the State is entitled.

The Act provides that the moneys appropriated for agricultural research shall be available also for the purchase and rental of land and the construction of buildings necessary for conducting the research provided for in the Act, for the equipment and maintenance of such buildings, and for printing and disseminating the results of research. The language of the Act is such that expenditures for these purposes are limited to those necessary for conducting the research financed under the Bankhead-Jones Act funds. While the authorization for printing and disseminating the results of research might seem to apply in a broader sense than results of research

financed by the Bankhead-Jones Act, such a broader interpretation obviously is not the intent and purpose of the Act. The publication of results of research is regarded as the completion of the research. The Bankhead-Jones Act provides specifically that the new funds made available are in addition to, and not in substitution for, funds otherwise made available for agricultural experiment stations. Individual cases will arise where results of research are the joint product of work under Bankhead-Jones funds and work under other funds. Use of the Bankhead-Jones funds for publication in such cases may be warranted. The use of Bankhead-Jones funds for publication of results clearly the product of research on other funds will necessarily be considered in the nature of a substitution of funds and not in accordance with the provisions of the Act.

With the foregoing statements relative to interpretation, intent, and purpose of the Act, the following more specific points, supplementing the general regulations set forth in U. S. D. A. Miscellaneous Publication No. 202, "Federal Legislation, Rulings, and Regulations Affecting the State Agricultural Experiment Stations", will be a guide in the payment, administration, and use of the Bankhead-Jones funds:

(1) Payments of the allotments of funds authorized in Title I, Section 5, of the Act, will be made only to the treasurer or other officer of the experiment station duly appointed by the governing board of the college to receive the same, whose duty it will be to receive and bank the funds, account for them to the director, and account for the interest accrued on them annually. The director of the experiment station, in relation to these funds is expected to have full authority and responsibility for their budgeting, expenditure, and accounting, and for determining the details of the research program conducted with them, similarly as with the Hatch, Adams, and Purnell funds. Also, the director will be expected to assume full responsibility for the manner in which the Bankhead-Jones funds will be offset, as required by the Act, and for determining the research for which such offset funds are to be made available. The Office of Experiment Stations will deal with the director in regard to all such matters.

(2) Since the Act specifies the purpose for which the funds authorized may be expended, it is expected that the program of research so financed will represent definite pieces of investigation of substantial character relating to the lines specified in Title I, Section 1. Conforming to this principle, these funds will be administered on the same general plan as that followed with the Adams and Purnell funds, namely on the basis of a program of specific projects and budget for expenditures, to be submitted annually in advance to the Office of Experiment Stations for consideration and discussion on or before June 15 of each year, in order that a full understanding and agreement may be reached. All projects supported partly or wholly from the Bankhead-Jones funds, therefore, should be submitted in outline in advance for examination and approval as to their suitability to the new appropriation.

(3) It will be expected that expenditures from the Bankhead-Jones fund will be limited to those considered necessary for specific investigations along the lines provided for in the Act, with such charges for special buildings and land as are necessary and pertain directly to research conducted under the provisions of this Act, and for publishing results of research resulting in whole or in substantial part from expenditures under this Act.

(4) An annual financial report on the manner in which each State and Territory has expended its allotment of the Bankhead-Jones fund and the offset funds thereto specified by the Act will be required, this to be of the same character as that required for the Hatch, Adams, and Purnell funds and rendered on the same blanks with them. Therefore, the Bankhead-Jones funds cannot be pooled with other funds. A separate account of the fund must be kept. This account, as in the case of Hatch, Adams, and Purnell funds, should be a current one, supported by a set of vouchers, similar to Adams and Purnell vouchers, and corresponding claims with evidence of their payment, readily available on due notice for examination by the Chief of the Office of Experiment Stations or his accredited representative. All vouchers and claims should bear the approval of the Station Director or his authorized representative. The classification of expenditures from the Bankhead-Jones fund will be on the same basis as for the Hatch, Adams, and Purnell funds.

(5) Where the support of projects initiated under the Bankhead-Jones Act is shared in by other funds, it should be possible to show quite definitely what the Bankhead-Jones fund is being used for.

(6) The Act not only authorizes the provision of additional funds for specific lines of research, but also authorizes substantial contributions of funds for the support of extension work and the teaching activities of the land-grant colleges. It also authorizes the expenditure of the research funds by the State agricultural experiment stations established in pursuance of the Hatch Act. Thus it recognizes the existence in each State of an experiment station with an effective organization, established administrative procedure, buildings, lands and other basic facilities already available for research. Under the circumstances, therefore, there would appear to be no justification for encroachment by the land-grant colleges upon the time and energies of research staffs, research facilities, or research equipment of the experiment stations. It is expected, therefore, that general and overhead expenses, such as apply to administration and upkeep and the care of buildings and grounds, and of college teaching and extension work will be cared for without drawing upon the Bankhead-Jones fund. Similarly, expenditures for the maintenance of experimental farms and livestock and other ordinary expenses for the maintenance of facilities for research should not be made from the Bankhead-Jones fund, except in so far as they specifically apply to the support of research projects approved under this Act. Accordingly, the Office of Experiment Stations, in its administrative relationships with the experiment stations, will be expected to scrutinize closely all salaries and parts of salaries paid from the Hatch, Adams, Purnell, and Bankhead-Jones funds, particularly those salaries paid jointly by the station and the college, to insure that

the station work receives a full measure of the time and energy of specialists assigned to it with due regard to the character, scope, and productiveness of the work itself as projected. Expenditures from these funds for research supplies, equipment, and other facilities, including especially buildings, land, livestock, and the maintenance thereof, likewise will be scrutinized carefully to insure that such expenditures are limited to the legitimate needs of the research programs of the stations.

(7) Title I of this Act states that the sums appropriated shall be in addition to, and not in substitution for, sums appropriated or otherwise made available for agricultural experiment stations. There is no provision for relieving the States or Territories during any fiscal year of the responsibility of supporting research already in operation and which is being financed for that fiscal year from funds of non-Federal origin. This applies to all funds of non-Federal origin used by the station in support of its research, including gifts, grants, endowments, fees, and sales income. It is therefore not permissible to transfer research projects already supported from funds of non-Federal or other origin to the Bankhead-Jones fund with the idea of reducing the State support to the research program of the station for any fiscal year.

(8) It will be necessary for each station to submit evidence satisfactory to the Department as to the amount of offset funds which will be made available for research from other than Federal sources for each fiscal year. Such evidence must be submitted by each experiment station, on forms which will be provided by the Office of Experiment Stations, not later than June 15 of each year, in order that certification of the station to the Treasury to receive the allotment of funds provided for in the Act may be made in due time. At the time of the annual official examination of the work and expenditures of each experiment station by the Office of Experiment Stations for any fiscal year, it will be expected that evidence of the expenditure for agricultural research of an amount of funds from other than Federal sources, equal to the amount of Bankhead-Jones funds expended during the year, will be submitted for verification in detail.

Sincerely yours,

/s/ Henry A. Wallace
Secretary

ATTACHMENT K

AN APPRAISAL OF THE POLICIES AND PROCEDURE INVOLVED IN THE HATCH ACT FROM THE STANDPOINT OF AN EFFICIENT WAY OF ADMINISTERING PRODUCTIVE RESEARCH WORK. 1/

R. W. Trullinger
Office of Experiment Stations

The Hatch Act is considered here largely in the collective sense as including all four of the Federal acts granting funds to the States for agricultural research. For purposes of this discussion, a selected few of the more basic and widely influential policies and procedures involved in the Hatch and subsequent acts have been analyzed to bring out major features of their development affecting the administration of research at the stations.

It appears that the Hatch Act was the result of deliberate and purposeful planning for the future stability of agricultural research based upon existing experience and knowledge of requirements. Apparently the intent of early agricultural leaders was to establish the scientific identity of the agricultural experiment stations and especially to show that the conduct of research in agricultural science was their proper function as distinguished from experimental and demonstration farming. In support of this policy, Dr. W. O. Atwater, director of the first State agricultural experiment station, described the station, in his first annual report, as an institution where the rigid tests of scientific experiment may be used for gaining more certain understanding of the principles that underly the right practice of agriculture. The legislative resolution providing State support for this first agricultural experiment station specified that the funds were to be used in employing competent scientific men to carry on the appropriate work of an agricultural experiment station. Dr. Atwater's first annual report also stated that more abstract scientific investigations would afford not only the proper but also the most widely and permanently useful work of an agricultural experiment station and that such an institution would be worthy of the name in proportion as it carried on accurate and thorough investigations and experiments in agricultural science.

In further efforts to crystallize thought on scientific research, Commissioner Colman of the Department of Agriculture informed delegates from agricultural colleges and experiment stations in 1885 that much valuable time and a great deal of money were being lost in desultory and unmethodical experiments. In that connection, he distinguished between production and demonstration farming and scientific investigation, considering the latter a legitimate experiment station function. President Smith of the Maryland Agricultural College also was of the opinion that as an experiment station director, it was not his duty to raise crops as crops but that the legitimate work of an agricultural college should be experimental, the profit, while not undesirable, to be secondary and incidental.

1/ Presented before the Fifty-First Annual Convention of the Association of Land-Grant Colleges and Universities, November 14-17, 1937, at Washington, D. C.

These and other arguments by early agricultural leaders in behalf of scientific research make it clear that, in preparation for the Hatch Act, well-defined ideas as to the organization structure, essential character of personnel and physical equipment, and proper functions, duties, and responsibilities of an agricultural experiment station had been formulated and agreed upon. Out of these conceptions, standards had grown which were of such common usage as practically to constitute common law. The basic pattern of the modern agricultural experiment station was thus laid down and adopted in various forms by 28 States previous to the passage of the Hatch Act.

It was apparently with the calculated purpose of identifying the Hatch agricultural experiment stations with these essential standards and definitions that Section 1 of the Hatch Act was so worded as to authorize the establishment in each Land-Grant College "of a department to be known and designated as an 'agricultural experiment station'". The term "agricultural experiment station" appears in the text of the act in quotations implying reference to a previously formulated standard definition. The further provision of the act that the establishment of the stations was intended to promote scientific investigation and experiment respecting the principles and applications of agricultural science, considered in connection with the specification in Section 2 that the object and duty of the experiment stations are to conduct original researches or verify experiments, seems to have established the scientific character of the functions of the stations.

These passages of the act served ultimately as the basic authority for policy and procedure essential to the maintenance of the security and integrity of the experiment stations as scientific institutions. The significance of this is reflected in the action of an early Committee on Experiment Station Organization and Policy of the Association of American Agricultural Colleges and Experiment Stations who in 1906 found it necessary from past experience to insist on the strict observance of certain fundamentals in station organization affecting (1) relative authority of boards of trustees and station officers in station policy and conduct; (2) propriety in relations between boards of trustees and station officers; and (3) tenure of office and reasonable security of position of scientific personnel of station staffs. Early policies adopted to cover these points had a foundation of authority in the Hatch Act with its historical and common law background which has for fifty years maintained the scientific integrity of the stations when interfered with unduly.

Early agricultural leaders recognized the importance of group action to the success of agricultural research. For example, in 1883 Dr. Atwater advocated the organization of an effective system of cooperative experimentation which would utilize the Department of Agriculture as an official and influential center from whence suggestions and plans for work would emanate and with whose aid all could work together. Likewise in 1887 the Committee on Experiment Station Work of the Association also pointed out the importance of full and frequent intercommunication in order that each station might be made constantly acquainted with the work of others and that conferences and consultation might be facilitated.

Accordingly, Section 2 of the Hatch Act authorized the conduct of "such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective States and Territories." This section thus sounded the keynote and basic authority for effective coordination of the research of the stations. It appears to have been with the calculated purpose of providing machinery for establishing far-reaching coordination of agricultural research on the basis of mutually acceptable cooperative procedure that the early agricultural leaders incorporated in Section 3 of the Hatch Act the language "that in order to secure, as far as practicable, uniformity of methods and results in the work of said stations, it shall be the duty of the United States Commissioner of Agriculture to furnish forms, as far as practicable, for the tabulation of results of investigation or experiment; to indicate from time to time such lines of inquiry as to him shall seem most important, and, in general, to furnish such advice and assistance as will best promote the purpose of this act". In elaborating the policy of cooperation thus legalized, the first Secretary of Agriculture expressed the opinion that the inherent policy of the Hatch Act is that "the future usefulness of the stations will depend upon what they discover of permanent value". With this in mind, the Secretary pointed out that while the Government reserves the right to regulate the research which it endows, and while this regulating power is implied in the legislation by which the stations are established such authority should be exercised mainly in the form of wise and sympathetic help. The Secretary was of the opinion that to be first among the stations, the Department should be the servant of them all and should exercise not dictatorship but leadership. Its influence should be powerful in bringing the stations together and in coordinating their work. This announcement of policy by the Secretary together with his further opinion that the most immediate and pressing need seemed to be for a clearing house and an exchange for the stations appeared to have been the first specification for the Office of Experiment Stations. His further suggestion of the importance of an abstract journal for the stations forecast the Experiment Station Record.

Accordingly, in 1889, the Association adopted resolutions that (1) groups of States should cooperate in the study of problems of common interest so far as feasible; (2) the Department of Agriculture should aid the stations singly and in groups as circumstances indicate; and (3) the stations should extend similar aid to the Department in the study of mutual problems. The Association also made clear that the autonomy of the stations should be preserved. A policy was generally agreed upon that independent work be not undertaken in the individual State by the Department without informing the State station or consulting with it, particularly in lines of investigation in which the station was already engaged. Thus two generations ago policy and procedure of mutually acceptable and beneficial cooperation between the bureaus of the Department of Agriculture and the experiment stations, singly and in groups, was born of the Hatch Act.

When in intervening years the experiment stations were criticized for what was considered unnecessary duplication of research, there was general concurrence in the opinion that, under authority provided in the Hatch Act, cooperation could be used in scientific research to take advantage of essential and helpful duplication as well as to eliminate useless duplication. It appears to have been the opinion of the majority that there should be a limit to the duplication of station investigations especially in the more indirect and fundamental problems such as animal nutrition, plant genetics, etc. The inference was, however, that if by joint agreement among stations work of this character could be so distributed as to cover large sections or regions of the country having similar basic requirements and physical conditions, more efficient use might be made of available facilities and essential duplication in the service of all with a minimum of useless duplication. Thus an original conception of the regional laboratories now provided for by the Bankhead-Jones Act appears to have been developed on the basis of policies involved in the Hatch Act.

It apparently also was the general intention to apply the policy of cooperation and coordination to the individual station. The inference to be drawn from the many discussions of cooperation and coordination is that while the success of research was thought to depend upon the individuality as well as the ability of the men engaged in it, and freedom of research action and initiative were considered as among its first conditions, nevertheless, the opinion prevailed that effective cooperation and coordination begin at home. As the stations gained in experience it became apparent that before unity of purpose and action as between stations could be successfully attained, these policies and procedures must first become essential factors of the relationships between individuals and between scientific departments within stations. Emphasis was placed on this policy in 1911 by the Section on Experiment Station Work. Incidentally, this same policy was enunciated years later as a basis for the retrenchment and adjustment program of the stations.

Opinions thus matured early in the minds of agricultural leaders regarding the essential character of cooperation in agricultural research as provided for by the Hatch Act and the coordination of research facilities. To further the objectives of cooperative research the Secretary of Agriculture in 1899 established a procedure whereby bureaus of the Department desiring cooperation with State experiment stations must present their plan to the Secretary for approval. Likewise, the stations desiring bureau cooperation were invited to present their needs to the Secretary. After approval by the Secretary, final plans for cooperation were worked out by the Office of Experiment Stations which was responsible to both parties. This plan appears to have been the beginning of formal cooperation between the experiment stations and the Department.

While the procedure of cooperation has been modified and improved through the years, its original essential features still endure. It became an extremely useful policy to the experiment stations early after its adoption and the Association in 1904 viewed with disfavor any movements which either by legislation or otherwise should tend to disturb or lessen the mutually advantageous relations then existing between the Department of Agriculture and the experiment

stations. That it has fostered procedure widely agreed upon as being essential to the efficient conduct of productive research is attested to by the record for the past fiscal year of nearly 1,200 separate formal agreements and memoranda of understanding, covering cooperative research involving all the Department research bureaus and all the State experiment stations.

The experiment stations took quite literally the authorization in the Hatch Act for the verification of experiments and for the dissemination of the results of experimentation. This resulted early in the greater portion of the Hatch fund being used for these purposes and the need for original researches to provide essential fundamental information, while kept constantly in mind, was necessarily largely neglected. The Committee on Experiment Station Organization and Policy of the Association also took cognizance of the tendency toward lack of soundness and definiteness in station work and decried (1) lack of clear discrimination between investigation in a strict sense and ordinary experimental work; (2) lack of definiteness in the purpose and plan of investigations; (3) tendency to take up too large or too broad problems; (4) the outlining of too large a number of projects; and (5) tendency for administration of research to be concentrated in station departments rather than in the station director.

These and other difficulties were forerunners of the Adams Act which appropriated money "for the more complete endowment and maintenance of agricultural experiment stations now established". The Adams Act was thus subject to the conditions and limitations of the Hatch Act but was worded more rigidly with the calculated purpose of correcting some of the administrative practices which had grown up under the Hatch Act and which leaders in research considered questionable.

The Adams Act further specified that the funds authorized should be applied "only to paying the necessary expenses of conducting original researches or experiments bearing directly on the agricultural industry of the United States having due regard to the varying conditions and needs of the respective States and Territories". This limited specification authorized a type of research the purpose of which was to secure useful scientific facts of the permanence implied in the statement quoted above from the first Secretary of Agriculture. By repeating the language of the Hatch Act, it again emphasized the necessity for coordination as between States.

The passage of the Adams Act appears to have impressed agricultural leaders, including both administrators and investigators, with the wisdom of adopting the organized project system in research. Immediately after its passage, the Committee on Experiment Station Organization and Policy of the Association concluded that the intention of the act was to provide authority and means for carrying on investigations of a relatively high order with a view to the discovering of essential scientific principles which might be used in the permanent solution of the more difficult and fundamental problems of agriculture. To this end, the Committee considered it very desirable that careful attention be given to the choice of definite problems to be studied and to the methods by which these problems are to be solved.

Accordingly, the Secretary of Agriculture in his instructions as to the administration and use of the Adams fund stated "in order that there may be no doubt as to the disposal of the Adams fund, each station should outline a definite program of experimental work". The Committee on Experiment Station Organization and Policy of the Association found itself in accord with this policy. By general agreement, the plan of conducting the work of the experiment stations on the basis of well-defined and well-organized research projects was inaugurated.

In succeeding years the project as the tangible but flexible basic unit of research proved its value in the administration of productive endeavor by the stations, particularly as it related to the efficient use of available funds, personnel, and facilities, and as it served as a focus for concerted thought and action by all concerned in it. In discussing efficient experiment station administration, Director F. B. Mumford of Missouri in 1911 expressed the commonly accepted opinion that the apportionment of funds for definite projects is the best plan of all.

In view of the success of the project system for expending the Adams fund, the Secretary of Agriculture instructed that the funds authorized by the Purnell Act of 1925 be administered and used on the same basis. He emphasized the importance of this because the Purnell Act directed that the funds appropriated should be applied only to paying the necessary expenses of conducting investigations or making experiments in specified lines. The Secretary thus considered it important that work with the funds provided by the act should represent definite pieces of investigation of substantial character.

The Committee on Experiment Station Organization and Policy of the Association again found itself in full agreement with the Secretary. In 1926, the Committee pointed out that the passage of the Purnell Act as a supplement to the Hatch and Adams Acts and which opened new fields for investigation and provided increased support to research already established, emphasized the wisdom of maintaining standards previously agreed upon as being essential to satisfactory productive research. The Committee was of the opinion that to maintain these standards, critical examination should be made of the projects themselves before they are accepted for investigation. It was recommended that station committees for this purpose be made a part of the regular administrative policy of the stations. As a result, this procedure was widely adopted.

In 1927, the Committee on Organization and Policy again emphasized the need for more critical scrutiny in outlining new research projects and enumerated and defined the essential features of a project outline. The Committee reiterated this stand in 1931 and the minimum essentials of a project plan showing evidence of clearer and more deliberate planning and of more systematic, ordered effort were again laid down which would picture the merits of the project, its objectives, procedure as to technique and methods, the probable period of time required and its reasonableness, and the funds required and their adequacy for the proposed work. The resulting general tightening up in the organization and planning of projects was significant in the light of subsequent developments.

The policy of cooperation within and among stations and between the stations and the Department of Agriculture, together with the general adoption and gradual strengthening of the project system of research organization and administration by the stations stood them in good stead during the lean years beginning with 1932. With reduced facilities, the stations were confronted with unprecedented demands for special emergency research in connection with the many essential recovery activities both State and Federal. To meet this situation and at the same time maintain essential standards of research, the Committee on Experiment Station Organization and Policy urged as guiding principles (1) the maintenance of well-qualified scientific men in key positions; (2) the consolidation of research facilities in the way of land, buildings, livestock, and scientific equipment under control of the director; (3) the strengthening of cooperation and coordination between stations and the Department of Agriculture; and (4) the centralization of all research financing on a project basis in the director's office. The emergency caught the stations with curtailed resources but found them scientifically strong and potentially sound in organization as regards work, finances, and internal and external relationships. The manner in which the stations adjusted and mobilized their facilities and met the emergency is history. There appears little doubt that the pertinent policies and procedures originating in the Hatch Act and developed and strengthened during the intervening years played an important part in the readiness of the stations to meet emergency demands.

Circumstances thus prepared the stations for the Bankhead-Jones Act of 1935. That act as it referred to research, reiterated, strengthened, and drove home the policies of and procedures inherent in the Hatch Act relating to the necessity for scientific soundness, strong cooperative relationships within and between stations and between the stations and the Department, and efficient organization and administration of the stations. As pointed out by the Committee on Projects and Correlation of Research, the act afforded new opportunity to strengthen and make more effective the Federal-State cooperation and to bring the States into closer relationship on problems common to agricultural regions. The six regional laboratories now in operation are tangible evidence of the truth of this statement.

In conclusion, it is believed that the direct or implied provisions of the Hatch and subsequent acts discussed above have largely supplied the foundation for the present structure of widely useful policies and procedures which directly influence and largely govern the administration of productive research at the stations. These are:

1. Provision of a standardized pattern and definition for the agricultural experiment stations based upon long-established and generally accepted procedure.

2. Establishment of the scientific identity and status of the agricultural experiment stations.

3. Specification of the purpose, functions, and obligations of the agricultural experiment stations with the systematic manipulation of the natural and social sciences in the prosecution of agricultural research as the keynote and objective.

4. Justification for the general adoption of the organized specific project as the tangible but flexible basic unit in the administration of research.

5. Provision for and establishment of the basic principles and practice of cooperation within individual agricultural experiment stations, between agricultural experiment stations, and between the stations and the Department of Agriculture, and for the coordination of their facilities and research.

The character and significance of the many subsidiary and supplemental policies and procedures which have grown with time and experience out of the above-enumerated provisions appear to be such as to warrant careful study of them by experiment station officers as a basis for sound and productive administrative procedure.

RESEARCH POLICY AND PROCEDURE DEVELOPMENT
by the
STATE AGRICULTURAL EXPERIMENT STATIONS 1/

(Preliminary Draft for Review by ESCOP
Covering Period, 1940-55)

Approved for retention in the
library collection. Factually
Correct. Preliminary to
"State Agricultural Experiment Stations"
(U.S. Dept. of Agriculture.
Miscellaneous publication 904)
Werner P. Meyer, CSESS
2/12/63

1/ This is the preliminary draft of Part II, covering the period 1940-55. Part I, issued first under the title, ESCOP - ITS HISTORY AND INFLUENCE ON AGRICULTURAL RESEARCH, was reviewed by ESCOP in 1959 when the Directors requested the indicated change in title. The above title will appear after Part II has been reviewed and the two mimeographed copies have been edited for publication. Any apparent overlapping in the latter paragraphs of the text in Part I and the first pages of Part II will be adjusted in the final editing.

April 1960

State Stations and Federal Budget Requests

The approach of World War II, with increasingly heavy defense expenditures, saw a growing effort by the Federal Bureau of the Budget to develop uniform procedures in connection with annual budget requests by agencies of Government. Out of this concern developed conferences and considerations that led to a mutual understanding and agreement regarding relationship policies between the State agricultural experiment stations and the Bureau of the Budget.

In ESCOP's minutes of a meeting held in Roanoke, Virginia, on September 2-4, 1940, appears a reference to a meeting held at Ames, Iowa, which "made possible better understood relationships with the Bureau of the Budget." The succeeding item of the minutes, headed "Budget requests and hearings," then records the following:

> "An attempt was made to clarify procedures relative to experiment station asking for research from federal funds. The appropriate procedures seem to be as follows:
>
> "a. All appearances before any federal agency on budget matters affecting the stations in general must be first cleared through the Executive Committee (of the L. G. C. Association).
>
> "b. Inasmuch as all federal funds for the stations, as well as those of the Department of Agriculture itself, are carried in the Secretary's budget, it is appropriate that there be upon occasion conferences requested with the Secretary of Agriculture to consider recommendations to be made through his office to the Bureau of the Budget.
>
> "c. It is also appropriate to request hearings before the Bureau of the Budget, after the submission of the Agricultural Budget to the Bureau, relative to any matter of direct concern to the stations or to the efficient functioning of the cooperative relationship between the Department and stations.
>
> "d. It is appropriate that requests be made for hearings before Congressional committees on topics relating to appropriations or enabling legislation in which we are interested." (45)

Dr. R. E. Buchanan, who had been Dean and Director of the College of Agriculture and Agricultural Experiment Station, Iowa State College, and also Chairman of ESCOP at the time, described in detail the nature of the meeting at Ames referred to in the above minutes in a letter dated January 11, 1960. (46) The following excerpts from his letter shed additional light on the nature of the Bureau of the Budget conference at Ames and lend emphasis on the historical significance of the meetings held there:

> "The Chief of the Office of Experiment Stations of the USDA wrote me as Director of the Iowa Agricultural Experiment Station stating that a request had come from the Bureau of the Budget suggesting that the Bureau would like to have a group of men from the Bureau visit a typical agricultural experiment station in order to study its organization and particularly the utilization of the grant-in-aid funds furnished by Congress in partial support of our program. The Bureau wished also to study the budgetary relationships of the USDA with certain area

"agricultural administrations such as those of the 'Dust Bowl' and also get some idea as to the internal administration of Extension Services. The Chief suggested that we might be willing to visit with these men for a couple of days and study some of the problems of interest to the experiment stations and the extension service, the USDA and the Bureau of the Budget. After consultation with the members of the college administration an invitation was extended by this institution through the Office of Experiment Stations to the Bureau of the Budget to use this Station as a guinea pig.

"An extraordinarily free and frank discussion took place during the conferences. The men from the Bureau were full of questions--we attempted to answer to the best of our ability. We also had many questions to ask and the men from the Bureau were equally frank in replying to our queries. . . . We went into much detail concerning the organization and significance of research projects. The Bureau men were particularly interested in knowing how these projects originated. We pointed out that in many cases they came or were developed as a result of inquiries sent to our Extension Service concerning problems demanding immediate study. In other cases they involved careful studies in fundamental science. Some were directed for immediate answer to pressing problems in agriculture. Others were directed to an understanding of underlying biological, chemical, economic, and other factors that needed study to broaden the basis for agricultural research.

"We outlined, for example, our relationships with certain advisory committees from various agricultural groups. We discussed the problems that arose in the Station due to differences in wording of the several laws authorizing grants-in-aid, such as the Hatch Act, the Purnell Act, the Adams Act, etc. We outlined the relationship of the Agricultural Experiment Station and its staff to the Experiment Station Section of the Land-Grant College Association and to the Office of Experiment Stations. We stressed the need for much autonomy on the part of the Office of Experiment Stations. We vigorously and I believe successfully combatted the concept that Congressional Grants-in-aid made the State Stations arms of the Federal Government. The men from the Bureau were particularly interested in any techniques that had been developed that might reduce unnecessary duplication of research between Stations and with the USDA. Much emphasis was laid upon the necessity for replication and the need carefully to differentiate replication from duplication. The relationship of the Agricultural Experiment Station to the Agricultural Extension Service and to the teaching program of the College was studied with care. The men from the Bureau wanted to know how we could justify joint employment of certain individuals between extension and agricultural experiment station and between agricultural experiment station and teaching staff. . . .

"One of the points emphasized by the men from the Bureau was the lack of contact between the Bureau of the Budget and the agencies which finally spent the money which was appropriated by Congress. We discussed the techniques of requesting appropriations from the Congress and the techniques of appearance before Congressional Committees, etc.

"One of the important results of the conference was a quite informal agreement that there was no reason why the Committee on Experiment Station Organization and Policy should not, on occasion, have direct access to the men in the Bureau of the Budget (Agricultural Section) for discussion of some of their special problems. . . ." (46)

In 1940, the following resolution was presented by ESCOP during the 54th Annual Convention and approved by the Executive Body:

"L Whereas all funds allocated by Congress for the research of the Agricultural Experiment Stations are appointed through the U. S. Department of Agriculture, and

"Whereas many of the funds allocated to the various Bureaus and Offices of the U. S. Department of Agriculture, and

"Whereas there has been no formal presentation of the research needs of the State to the Secretary by the Land-Grant Colleges,

"It is therefore the recommendation of the Committee on Experiment Station Organization and Policy that the Executive Committee definitely authorize the Station Committee,

"(1) To prepare such materials and arguments as may be pertinent, and present them in conjunction with members of the Executive Committee to the Office of Experiment Stations for consideration in the preparation of the budget of the Secretary.

"(2) In cooperation with the Executive Committee to present the point of view of the Stations to the Budget Bureau with reference to agricultural appropriations.

"(3) In cooperation with the Executive Committee and at its direction make such appearances as may be necessary at hearings before the Senate and House."

ESCOP and Committee on Projects and Correlation Combined

The preceding pages of this summary have given ESCOP, created in 1905, and the Committee on Projects and Correlation, created in 1913, equal prominence with respect to their contributions to station policy development. From 1913 to 1942 the two committees existed side by side. The Committee on Projects and Correlation was a joint committee of the Association and of the Department. Through the years it included on its membership the Chief of the Office of Experiment Stations. As early as the 49th convention held in 1935 (see pp. 43 and 44), ESCOP had pointed out that "There are now two standing committees of the Association dealing with questions of research - the Joint Committee on Projects and Correlation of Research and the Committee on Experiment Station Organization and Policy," and subsequently recommended "A reconsideration of the functions of the two standing committees. . . ." At the time, however, a special committee appointed to look into the matter had recommended the two be combined. (27)

Part II of the 1940 resolution, approved by the Executive Committee, reads as follows:

"II. The Committee recommends that certain changes be made in the constitution of this Committee. It is recommended that:

"(1) The Secretary of the Subsection on Experiment Stations be made a member ex-officio of this Committee, with the suggestion that he serve also as Secretary of the Committee. It is important that this officer be kept in touch with the Committee and be in a position to act as a liaison officer between Committee and Subsection.

"(2) Add to the appointed members of the Committee two additional Directors of the Agricultural Experiment Stations, making a committee of eight members.

"(3) Change the tenure of committee members appointed in the future from three to four years, two members to be appointed each year.

"(4) Make four appointments to the Committee at the Chicago meeting, November 1940, two for a term of three years and two for a term of four years.

"(5) Make appointments in the future so that as soon as possible the committee will consist of two representatives of each of the four major agricultural regions of the United States. This will make possible a much closer coordination between the members of the Committee and the Directors' Associations of each of the four regions."

Considerable policy had indeed been formulated by the two committees since 1905 and 1914, respectively. A resume of matters discussed and on which policy decisions were made during the years 1905-40 will be found in Attachment L. The agenda for ESCOP's meeting of October 24-30, 1942, contains an item on the subject of relationship between the two committees and an exchange of correspondence between the chairman of ESCOP, Director R. E. Buchanan (Iowa) and the chairman of the Committee on Projects and Correlation, Associate Director Noble Clark (Wisconsin) on whether the committees should be combined. The correspondence preceded the final consolidation of the two into a single committee. (Attachment M).

The two committees were combined in 1942 during the 56th Convention on recommendation of the Experiment Station Section and approval by the executive body. The Section had recommended:

"1. That the Committee on Experiment Station Organization and Policy and the Joint Committee on Projects and Correlation of Research be merged into one Committee to be designated as the Committee on Agricultural Experiment Station Organization and Policy.

"2. That the duties of the Committee are to include all duties of the two Committees merged, including all matters relating to agricultural and home economics research.

"3. That the Committee be composed of three directors from each of the four major agricultural regions, each committeeman to be appointed for a term of four years, the Secretary of the Section on Experiment Station Work, and the Chief of the Office of Experiment Stations, ex-officio.

"It shall also include one woman from each of the four major agricultural regions likewise appointed for terms of four years, and the Chief of the Bureau of Home Economics and the Principal Administrator of Home Economics of the Office of Experiment Stations, United States Department of Agriculture, ex-officio. These six women shall constitute the Subcommittee of Home Economics.

"4. It is suggested that ex-officio membership on the Committee include:

"Secretary, Section on Experiment Station Work.
James T. Jardine, Chief, Office of Experiment Stations, U. S. Department of Agriculture.
Dr. Louise Stanley, Chief, Bureau of Home Economics, U. S. Department of Agriculture.
Miss Sybil L. Smith, Office of Experiment Stations, U. S. Department of Agriculture.

"It is expected that this Committee will divide itself into such subcommittees as are needed for consideration of problems of research of the Agricultural Experiment Stations, relations among Stations, and relations to research of other agencies, particularly of the United States Department of Agriculture.

"It is recommended further, that for consideration of special problems and with consent of administrators involved, the Committee may invite individuals from Bureaus of the United States Department of Agriculture or from subject-matter departments of the Agricultural Experiment Stations to serve on special subcommittees." (44)

The 1942 changes in the ESCOP organization had been preceded by a change of the research organization in the Department of Agriculture. There the former position of Director of Research was abolished and an Agricultural Research Administration created. (Amendment N). Under the reorganization, the Chief of the Office of Experiment Stations also became an Assistant Administrator of the Agricultural Research Administration.

Experiment Station Publications and Mailing Lists

Even before passage of the Hatch Act of 1887, the pioneer agricultural experiment stations recognized their responsibility for dissemination of the knowledge that grew out of experiment station research.

"The duties of an agricultural experiment station comprise dissemination as well as investigation," said Director E. Lewis Sturtevant of the New York Agricultural Experiment Station at Geneva in his first annual report for 1882. "To bring its experiments before the public, not alone through its annual report, but as well in other ways, is a

"duty that could not be neglected. Hence, at the earliest practical moment, your director commenced the issuance of weekly bulletins. . . ." (47)

Little published information is available on distribution practices and on the effectiveness of publications in reaching specific audiences. Since its organization in 1905, the Experiment Station Committee on Organization and Policy has frequently reviewed the question of policies to be followed in the publication and distribution of experiment station publications. The committee in 1912 made such a study and reported on the practices followed at that time relative to the distribution of station publications. It did so again in 1920, reporting that "The mounting cost of printing and paper has made the bills for publications an increasing tax upon the experiment station resources, which in many cases has become a heavy burden." Numerous papers were presented over the years by directors of experiment stations and similar leaders, including land-grant college presidents. (Attachment O). The majority of these, however, were made on the basis of administrative judgment. The nearest approach to recommendations based on scientific inquiry was one by Director Fred Griffee of the Maine Agricultural Experiment Station in 1940. His recommendations resulted from a nationwide survey of experiment station publications. (42) The following suggestions were summarized from replies received from 51 stations:

"1. That encouragement be given for the standardization of station publications and that fewer types be published. The list suggested is (a) Annual Report, (b) Bulletin, (c) Technical Bulletin, (d) Special Reports, (e) Regulatory Bulletin, (f) Miscellaneous Bulletin, (g) Journal type, and (h) Periodical type.

"2. That the number of copies printed of each bulletin be sufficient to supply the needs of the people who can be served from the standpoint of the best interest of agriculture.

"3. That the station mailing list should include the name of every farmer in the state who desires his name included; or, some other means be devised to make it possible for any farmer to obtain any bulletin he can use to advantage.

"4. That bulletins be sent only on request, except to college and station libraries, public libraries, county agents, agricultural teachers in high schools, foreign libraries, and such individuals and agencies as is required by Federal Acts.

"5. That a charge can logically be made for 'bulk lot' bulletins sent to commercial agencies, high schools, and individuals.

"6. That a news story accompany bulletins sent to newspapers.

"7. The inclusion of United States Department of Agriculture publications in Station lists should be a matter for the two agencies to work out cooperatively.

"8. Joint publications of the experiment station and extension service can be an asset to both agencies."

In 1950, a committee of experiment station editors, with one editor from each region, was asked by ESCOP to study the matter of annual reports. The committee sent a questionnaire to all station directors. It presented its recommendations under the title "Report on Experiment Station Annual Reports by the Editors' Subcommittee to the Experiment Station Committee on Organization and Policy." A principal suggestion was that annual reports be modified to serve mainly as a report on fiscal matters to the Governors and other officials, and that research developments be reported in periodicals. The number of States publishing such periodicals rose from 18 in 1950 to 40 in 1960. The subject of station publications was given further consideration by committees of experiment station editor meetings at the invitation of the Office of Experiment Stations and with authorization of their directors in 1949, 1950, 1951, and 1955. Experiment Station Editors took an active part through their professional organization, the American Association of Agricultural College Editors, in development of the National Project in Agricultural Communications at Michigan State College, East Lansing, Michigan. Following initial organization activities, the project became a land-grant college-authorized program administered by a Board on which both Experiment Station and Extension Directors were represented. Directors M. T. Buchanan (Washington) and M. H. Campbell (Rhode Island) at different times during the 7 years' life of the project served as chairmen of the Board.

Directors of the Experiment Stations also sought revival of the Committee on Distribution of Agricultural Publications Abroad following the second world war. The history of that committee is summarized in (Attachment P), a statement prepared in 1950 by the chairman of the subcommittee, Director Harold Macy (Minnesota). Subsequently, through the leadership of Chairman Macy, cooperation was obtained from the U. S. Department of Agriculture, the Department of State, and the International Cooperation Administration in the development of an Exchange Desk in the Department of Agriculture Library through which experiment station publications could be exchanged with approved institutions in foreign countries. With support from ICA and his University, Director Macy (Minnesota) made survey visits to South American countries in 1952, returning with the recommendation of 53 primary repositories in the countries visited. Similarly, Director I. B. Johnson (South Dakota) visited Central American countries in 1954. Director L. A. Henke (Hawaii) surveyed Near East countries in 1955, and Associate Director Noble Clark (Wisconsin) surveyed countries in the Far East in 1956.

ESCOP, during its 1955 annual meeting held on November 15, 1955, in East Lansing, combined the Committee on Distribution of Agricultural Publications Abroad into a Publications Subcommittee (Attachment Q). Subsequently, Associate Director Noble Clark was named chairman of the Subcommittee. During the 1957 Association meeting, the name of the Committee was made a joint committee with the Extension Committee on Organization and Policy and given the name, Joint ESCOP-ECOP Committee on Agricultural and Home Economics Publications.

Marketing Bill Prior to Pearl Harbor

At meetings of ESCOP held on January 4-6 and April 9-10, 1941, considerable discussion centered around a number of legislative proposals. Among these was one proposed by the Subcommittee on Home Economics and Nutrition. "To Provide for the Development of Better Diets and An Improved Nutritional Status for the People of the United States," and H. R. 969, the Fulmer Bill designated as the "Cooperative Forest Restoration Act." Under marketing

legislation there was long discussion of H. R. 1382, the newly introduced Cooley Bill, also the marketing bill that was being developed by a committee of the Association of Land-Grant Colleges.

A principal difference between the Cooley Bill and the one supported by ESCOP, ECOP, and the Association, related to a provision in the former regarding authorization to handle phases of the work which the land-grant leaders felt was an Extension and Experiment Station function. Full wording of each measure was printed in the official hearings held before the House Committee on Agriculture, 75th Congress, First Session, March 11-19, 1941. During the hearings, Mr. Edward A. O'Neal, President of the American Farm Bureau Federation, had the land-grant-drafted bill inserted into the records of the hearings. "We do not believe it is desirable," he testified, "in the interest of efficient administration and economy, to place another agency in this same field of activity." He then outlined what the Extension Service and Experiment Stations had been doing in the field of marketing and emphasized it was largely a matter of money support that kept them from doing more. He outlined the duties of the several groups and regarding the agricultural experiment stations said:

> "The bill also authorizes an appropriation of $1,500,000 to the agricultural experiment stations for research in marketing and marketing services for farm commodities. The Extension Service relies upon the Experiment Stations to conduct the necessary research on farmers' marketing problems, and the Extension Program is based upon these research findings. There are a great many problems connected with the marketing of farm commodities which need intensive study. This is the primary responsibility of the agricultural experiment stations; they were established by Congress for this purpose. Some of these studies are carried on cooperatively by several stations and in cooperation with the United States Department of Agriculture." (48)

The minutes of ESCOP's meeting of April 9-10, 1941, include the following item:

> "The Committee on Experiment Station Organization and Policy wishes again to emphasize its belief that the Cooley Bill on marketing is not in the best interests of research in marketing nor of better marketing. We believe the marketing bill prepared last January, and suggested by the Farm Bureau Federation as a desirable substitute should again be endorsed and the appropriate committees authorized to appear at congressional hearings."

In the agenda prepared for the April 9-10 meeting, the chairman of ESCOP summarized provisions of the land-grant college bill as follows:

> "Title I. $1,500,000 Secretary of Agriculture of which 80% to be cooperative with state departments of agriculture.
>
> "Title II. $1,500,000 to extension, 8% for administration, remainder to states, 1/3 farm, 1/3 total, 1/3 gross farm income; $10,000 to each state, remainder matched.

"Title III. $1,500,000 to research. 8% for administration and regional. Apportioned as in Title II. Above $10,000 matched.

"Title IV. $500,000 teaching, $15,000 administration, each state $5,000. Apportioned as above.

"Title V. Committee on coordination." (49)

Despite all the consideration given marketing legislation and legislation pertaining to other phases of the experiment station and extension programs in 1941, nothing materialized except emergency measures that were temporary and directed toward winning the war. The Executive Committee of the Association, "following declaration of war, concluded to devote its attention only to the holding of existing appropriations plus some additional emergency funds for Extension. This meant the putting in storage of the several acts that were of interest to the land-grant colleges, some of which did have research implications." (50) Any student wishing to go into the history of the Agricultural Marketing Act of 1946 that was finally acted upon following the war, can well afford to go back to the 1941 ESCOP minutes and agenda as compiled by the able ESCOP chairman of that year and the wartime years, Dr. R. E. Buchanan, Director of the Agricultural Experiment Station, Iowa State College.

The minutes of the Proceedings for the 55th Annual Convention of the Association of Land-Grant Colleges and Universities, held in Chicago, Illinois, November 10-12, 1941, less than a month prior to Pearl Harbor, reflect considerable thought devoted to National Defense. The Presidential address, given by Dean Emeritus F. B. Mumford (Missouri) was on the subject "The Land-Grant Colleges and the National Welfare." Discussing the land-grant institution's contributions to science, Dean Mumford said, in part:

"Looking back now over the early history of the Colleges of Agriculture, we must admit that in the beginning they satisfied neither their administrators nor the farmers for whom they were organized. They were constantly criticized on the grounds that they were not serving the farmers, the knowledge provided was impracticable, and the students who attended did not return to the farm. It was not until the passage of the Hatch Agricultural Experiment Station Act in 1887 that these institutions began to be recognized as effective agencies.

"Before the establishment of the Agricultural Experiment Stations, there existed no adequate body of agricultural knowledge which could be taught. With the publication of Experiment Station bulletins there was gradually developed a literature of agriculture. This literature was firmly based on scientific research. Agricultural teaching was no longer a matter of opinion based on a limited experience. It was a statement of facts resulting from carefully controlled experiments. Science became an instrument for the solution of farm problems. Incredulity and ridicule by farmers was gradually replaced by a belief in and use of the knowledge taught by the colleges. To my mind this change of attitude by farmers is one of the most significant phenomena in our educational history. This was a great contribution to science itself. Farm people have ever been the most conservative and careful group in the acceptance of new knowledge or new methods. To

"have converted them to a full appreciation of the value of scientific research and an enthusiastic acceptance of the results of science was an accomplishment of major importance not only to agriculture, but to science in general."

* * * * * * *

"The growth of agricultural experiment stations has been co-extensive with the growth of science. They have made many and important contributions to science. While this is true, it is not to be forgotten that these agencies are agricultural experiment stations. They were established to solve the problems of agriculture by the methods of science. These stations were organized to serve agriculture. They were not established primarily to advance the cause of science. Such an advancement they have made, but it has been incidental to their major purpose which has been and continues to be service to agriculture." (43)

Among the papers read before the Experiment Station Section were the following: "The Need for Closer Correlation of Research and Extension Activities," by Dean and Director H. P. Rusk (Illinois); "Evaluating Existing Projects for Defense Needs," by Director R. B. Corbett (Maryland); "Establishing New Research Projects Under the National Emergency," by R. W. Trullinger, Office of Experiment Stations; "Post-War Public Welfare Problems in Agriculture," by Dr. T. W. Schultz, Iowa State College; "Post-War Problems of the Individual Farm Unit," by Dean and Director C. E. Ladd, Cornell University; "The Bankhead-Jones Regional Laboratories," by James T. Jardine, Office of Experiment Stations; and "Progress Report of the Regional Research Laboratories," by Henry G. Knight, Bureau of Agricultural Chemistry and Engineering.

Dean Mumford's message was effectively supplemented as to its social implication by President Edmund E. Day of Cornell University. His address, "Science, Society, and Social Progress," considered the "continuing impact of science on man's estate," and pointed out that "those who are responsible for social policy, of which educational policy is an important part, need to keep under constant surveillance the wide-ranging changes - economic, political, social, moral - which science is all the time working upon our social order."

"The future may bring hardship and sacrifice to us all," Secretary Wickard wrote in a message he sent to the Convention. "Farmers' difficulties are already beginning to show up in the form of scarcity of skilled labor, farm machinery, fertilizer, and spray materials. The experiment stations and extension services are going to have to give the farmer counsel as to the best ways to meet such problems and others unforeseen at this time. I can see an increased demand for technical assistance and for trained leaders for rural people and people living in villages and towns. The land-grant colleges are going to be hard pressed to meet this demand."

"In all the years the association has been meeting," Director M. L. Wilson of the Extension Service, Department of Agriculture, said, "it has never convened in a more critical period or with greater objectivity. . . . If it had not been for the land-grant colleges, their training of farmers, of agricultural scientists, economists, engineers, nutritionists, and administrators, and for the extension

"work which has carried the findings of science to all farmers, it would not be possible to reach the farm production goals which have been established for next year." (51)

The Executive Body took favorable action on the following ESCOP-proposed items:

(1) Approval of a 6-page report prepared by a subcommittee of agronomists and soil scientists urging serious consideration by the Secretary of Agriculture to reorganize the Federal Soil Survey Program.

(2) Approval of ESCOP's recommendation as to consolidation of Federal legislation pertaining to research support of the State Experiment Stations. (See p. 51, Part I of this compilation)

(3) Authorization for ESCOP to obtain sponsorship of its tentative bill "for the development of better diets and an improved nutritional status for the people of the United States."

(4) Proposed legislation for a study in the operation of farm forests in the form of an amendment to the Norris-Doxey Act.

Within less than 30 days following the 1941 Convention, the year's activities had become largely matters of record. The Nation was at war and the agricultural experiment stations, like their associated Agricultural and Home Economics Extension Services and Resident Teaching Departments concentrated on the single goal of victory.

Experiment Station Wartime Budgets

On October 6, 1942, ESCOP had met with the Bureau of the Budget to discuss Federal experiment station support under wartime conditions. ESCOP urged that 'the entire last increment of the Bankhead-Jones fund, amounting to $600,000 be recommended to Congress rather than continuation of the present 'equalization' fund of $63,780. This was urged on the basis of real wartime need, on increased cost of supplies and labor, and a record of rapid adjustment to war programs on the part of the stations." (52) The Directors had two principal requests: First, budgetary recognition of all Congressional authorizations for allocations of funds to the agricultural experiment stations; second, sufficient funds under the control of the Secretary of Agriculture which may be allocated where needed for emergency purposes in cooperation with the experiment stations.

Wartime budgets and wartime station activities were the principal concern of those directors who were able to attend the 56th annual convention in Chicago, Ill., October 28-30, 1942. The Experiment Station Section heard Dean and Director C. B. Hutchison (California), who was also Vice President of the Association, speak on "How May Research, the Undergraduate and the Graduate Programs, Be More Effectively Coordinated for the War Effort?" Director R. E. Buchanan (Iowa) spoke on "The Graduate College in Wartime." "It is advisable that we undertake such research as will make sense from the standpoint not only of the war emergency but of post-war rehabilitation, both nationally and internationally," he said. "We must also plan to integrate thoroughly the results of our research into wartime needs for action and education." He then listed a series of nine essential wartime needs for research the

land-grant colleges were called upon to render. Director R. B. Corbett (Maryland) presented a paper on "The Experiment Station's Job in Post-War Planning." In the closing general session, Dean W. I. Myers (Cornell) spoke on "Agricultural Problems in the War and Post-War Periods." (44)

In a discussion of Federal grants to State Experiment Stations, Director C. E. F. Guterman (Cornell) said:

> "Wholly without precedent in the history of the Stations, the Congress in the past two years has failed to appropriate the final increment for research authorized by the Bankhead-Jones Act and, in addition to, attempts have been made to reduce the funds from the present level.
>
> "The loss of the Federal-grant funds, or any appreciable proportion of them, would seriously curtail the agricultural research program in most if not all of the state stations. The magnitude of such a loss is emphasized when it is considered that research on local problems, especially those of crop and livestock production, must be as close as possible to the farmers, first to assure a practical approach, and second to assure prompt use of the results of such research. Also it should be recognized that the problem of Federal-State relations would be enormously complicated by any cut in these funds. As appropriated and administered at the present time, the Federal grants to the States constitute the cornerstone in Federal-States relations.
>
> "More complete knowledge on the part of appropriating bodies with respect to the value of the Federal-grant funds to the agricultural welfare of the Nation, would most certainly result in additional grants rather than in curtailment. To this end, Station programs must be kept alive and up-to-date through coordination, and by completion of projects as rapidly as possible. For the duration of the war, all resources of personnel must be devoted to the war effort and to the maintenance of essential farming practices. The general public should be more thoroughly acquainted with the results of Experiment Station research. A high proportion of these results are of direct value to every citizen of the Nation, in terms of various criteria, such as improved food at lower cost, improved nutrition, and better living conditions."

Director R. E. Buchanan (Iowa) presented a paper on "Grants to Federal Bureaus and Agencies for Cooperation With the States."

The Executive Body supported ESCOP in its recommendation that it was "an inopportune time during the war emergency to take up the problems of rewriting and consolidating the various Congressional acts which carry authorization for the appropriation of Federal funds to the Agricultural Experiment Stations." (See p. 51 of mimeographed Part I)

ESCOP's pre-convention minutes for October 25, 1942, record the following relative to proposed revisions in the Nutrition Bill:

"III-A. The subcommittee on Home Economics and Nutrition also reported on the revision of the Nutritional Bill proposed and approved in 1941, as follows:

"2. The subcommittee has revised the bill proposed and approved in 1941 by the Experiment Station Committee and by the Executive Committee for the provision of funds for immediate solution of war problems of nutrition and nutritive values of food, particularly in relation to the war production program. The subcommittee recommends endorsement of this bill and its presentation to the Executive Committee of the Association of Land-Grant Colleges and Universities for its approval and immediate introduction with a view to early adoption.

At the final session on Friday, October 30, the minutes record:

"The following special committee was named to foster the Nutrition Bill: R. B. Corbett, Chairman; C. E. F. Guterman; Edmund Secrest for the Directors; and Jessie W. Harris, Agnes Fay Morgan, and Sarah Blanding for Home Economics."

However, ESCOP's recommendations regarding this proposed bill was referred to the Executive Committee for further analysis and recommendations. (44) The bill as rewritten related "entirely to authorization for emergency research on human nutrition and the nutritive value of foods."

In the minutes of ESCOP's meeting of October 23 to 28, 1943, appears the following item III-D:

"III-D. Nutrition Bill. Director Corbett reported all five national farm organizations agreed to support the bill. Representative Pace of Georgia was selected to introduce the bill in Congress. The bill was rewritten increasing the authorization from $1,500,000 to $3,000,000, a change which was agreed to by the Executive Committee of the Land-Grant Association. A meeting was arranged for June 18 with Senator Russell and representatives of four national farm organizations for the purpose of arranging for the introduction of a companion bill in the Senate. Plans were not completed owing to Senator Russell's sudden call to leave for his global trip. Arrangements have not yet been made for introduction of the bill in the Senate. A copy of the new bill attached as Appendix A." (54)

Research Mobilization for War

World War II, like World War I, became milestones in history demonstrating science's contribution toward ample food production to "win the war." Had it not been for the tremendous accumulation of technical know-how growing out of agricultural research over the years, industrial production for war during the two worldwide conflicts would have been handicapped far more severely than it was. By 1943 it had become evident that entry of the United States into the conflict had become more than a holding operation. What agricultural research had accomplished was ably summarized in a major address delivered by Dr. E. C. Auchter, the Department of Agriculture's Administrator of Agricultural Research, before the general session of the Land-Grant College Association's 57th annual convention on October 27, 1943. Pointing out that

scientific research had shaped our civilization and how research had played such an important part in revolutionizing agriculture, Dr. Auchter paid tribute to the cooperation of the experiment stations in mobilizing for the conflict. (55)

> "More than two years ago," he said, "experiment station directors and staffs, seeing the problems ahead, started to scrutinize their station research projects carefully. In an effort to have funds, personnel, and facilities available to tackle many problems, certain of the regular projects which apparently would not make as immediate or direct contribution as some others to the war were laid by, so to speak, until after the war, or until circumstances indicated the need to resume or intensify work on them. The resources of the State Agricultural Experiment Stations have been marshalled for the job of supplying facts to solve many problems involved in the record demands for food, feed, and fiber occasioned by the war. Care has been taken, however, to prevent the loss of longtime experiments, such as soil fertility plots, and of valuable plant and animal material.
>
> "In the fiscal year 1942, Doctor Jardine, Chief of the Office of Experiment Stations, tells me that there was an increase of 16 percent in the number of research projects undertaken by the States under the Federal-grant funds compared with the average of the five preceding years, and that the regular research projects were modified where necessary to have them contribute more directly to the war effort. In 1943, there were over a thousand research undertakings by the States involving cooperation with bureaus of the Agricultural Research Administration and agencies of the War Food Administration. Many of these projects, of course, had been in progress before the war.
>
> "In the Federal Department of Agriculture in December 1941, the Secretary of Agriculture grouped several agencies into an Agricultural Research Administration with the purpose of coordinating and centering research activities of the Department upon war needs. To review briefly: The field covered by the Research Administration includes the following research bureaus - Animal Industry, Dairy Industry, Human Nutrition and Home Economics, Entomology and Plant Quarantine, Agricultural and Industrial Chemistry, and Plant Industry, Soils, and Agricultural Engineering - the Beltsville Research Center, the Office of Experiment Stations, and the four Regional Laboratories devoted to research on the industrial utilization of farm products and byproducts, and nine Bankhead-Jones laboratories devoted to research on certain agricultural problems common to groups of States in the major agricultural regions."

He discussed the widespread activities of the Department in carrying on war-related research and listed seven examples of major accomplishments brought about, stating that

> ". . . Although faced with difficulties in retaining an adequate number of trained research workers and in maintaining essential facilities during the past two years, the Experiment Stations, the U. S. Department of Agriculture, universities, and other research institutions

"have solved many new problems and have increased the volume of their service."

Turning from how agricultural research had been mobilized for war, Dr. Auchter then asked . . . "What is agricultural research doing now?"

"More than any other crisis we have ever met," he continued, "this war has proved that possession of scientific knowledge is a matter of life and death. As has been pointed out, it is not an accident that we are suddenly able to increase agricultural production beyond all previous records just when it is vitally necessary; that our soldiers and civilians are adequately fed for the strain of war; that we can develop scores of new techniques and products to meet specific needs and turn out the products in huge quantities. We can do these things only because science was not caught napping but was 'tooled up' and had a stockpile of scientific knowledge and experience, patiently accumulated through many years of research--and enough well developed techniques and trained personnel organized to tackle new problems with an excellent chance of success."

Dr. Auchter outlined numerous areas in which he recommended a pooling of research suggestions, including improved nutrition for human beings; plant and animal production; engineering and electrical and mechanical problems; postwar acquisition of obsolete military installations, lands, and equipment; better utilization of crop byproducts; and many areas of basic research.

"Postwar planning in the social sciences is, of course, very important," he emphasized. "Many urgent problems demand attention, such as those involving desirable adjustments in land tenure, cooperative institutions, shifts of population, improvement in marketing methods, and various rural social institutions. The urgency of these problems, however, serves to emphasize the need for the closest possible integration of planning and research in all of the sciences, natural and social alike, and a careful avoidance of too great compartmentalizing, or departmentalizing, of the planning and the implementing of the plans. There is also need for careful thinking and planning with respect to methods of extending the results of research to industry as well as to agriculture, particularly as they pertain to the utilization of farm products. Agricultural research after the war can no longer be concerned with the needs of the United States alone; it must relate our needs to world conditions. . . ."

"Agricultural science," he concluded, "has done much to shape the world we live in. It is playing an important part in the solution of our present problems. It is ready, able, and eager to make the greatest possible contribution in the post-war world."

Wartime Personnel Situation in Agricultural Sciences

In a letter dated October 12, 1943, Robert F. Griggs, Chairman, Division of Biology and Agriculture, National Research Council, transmitted to Chairman Buchanan of ESCOP a copy of Bulletin No. 5 "The Personnel Situation in the Agricultural Sciences" with a letter from which the following comments are excerpts:

"In general, you will see, the supply of scientific and technical people for the agricultural sciences is only about 25 percent of the needs. . . .

"The obvious remedy is that which has been developed within the War Manpower Commission to meet deficiencies of copper miners and a rapidly expanding series of critical shortages in other fields of production; namely, to release the trained men needed from the Armed Forces to take up their essential work in the food production field. The total number involved is too small to be of any consequence to an armed force of more than ten million men."

The minutes for the Executive Body of the Association's 57th Annual Convention show that a report made by ESCOP "with the concurrence of the Sections on Resident Teaching, Experiment Station, and Extension Work" was accepted and approved. The resolution asked that the Executive Committee or some appropriate subcommittee confer with Dr. Griggs "relative to appropriate procedures that might be instituted to better the situation."

Item IV-83 of the agenda prepared by Chairman Buchanan for the ESCOP meeting of June 21-23, 1944, carries a notation that "At a meeting of the Directors of the North Central Region a resolution was passed asking a special committee to prepare a statement to be presented to the War Manpower Commission. Following is correspondence relative to the matter." The correspondence includes a proposed statement that Associate Director W. V. Lambert (Indiana) had been requested to prepare concerning the personnel situation in the agricultural experiment stations.

However, during the 58th convention, the minutes in the Executive Body report that "No action was taken regarding the resolution of the Committee that the War and Navy Departments be asked to give consideration to requests from the public agricultural agencies for the return, as soon as consistent with the war effort, of certain highly skilled professional workers to their civilian jobs."

Postwar Planning

Despite their many wartime concerns, directors of the agricultural experiment stations as early as their 1942 convention discussed postwar policies and planning. Director Corbett's and Dean Myers' talks on this subject have already been referred to. One of the feature addresses on October 27 of the 57th annual convention in 1943 was by Secretary of Agriculture Claude R. Wickard, who spoke on "Agriculture in the Postwar World."

"We are going into the bloodiest phase of the war," he said, "and relaxing even for a single moment will cost more lives. But we can foresee the final decision. Therefore, it is not too soon to begin thinking our way through some of the problems that will follow the conflict. That thinking and planning will be difficult - probably some of the most difficult this Nation has ever faced. Agriculture's share of this complex and difficult task is very large. And by the same token the responsibilities of the Land-Grant Colleges in this job are very large. . . . The initiation of a program to consider postwar problems at a time when the Nation's entire energies are consumed in the war itself presents its obvious problems. Yet that fact does not make the task of

"preparing for peace less necessary; it only makes it more difficult.

"I know that in your own institutions you are undoubtedly finding it hard to add a postwar planning program to an already over-burdened work schedule. . . . I wish also to express my appreciation to you for the excellent help and suggestions which you people gave in the preparation of the report on the Interbureau and Regional Committees of National Agricultural Policy after the War. . . ."

Responsibility for the Department's postwar planning had been under the leadership of Dr. Howard Tolley, Chief, Bureau of Agricultural Economics, and Raymond C. Smith, chief program analyst in the Bureau. Under their leadership national program planning committees were organized in 1943. A national meeting on postwar planning, at which both departmental and State Experiment Station Directors were represented, was held in Milwaukee, Wisconsin, in the summer of 1943.

ESCOP's minutes for October 23, 1943, record:

"III-L Postwar Planning. Director Clark reviewed the events at the Milwaukee meeting and emphasized the necessity of each state assuming full responsibility for doing the job at the state level.

"Director Clark . . . read a letter from the Nebraska station which outlined clearly the disparity between the plans and programs of the experiment station and the federal policies of the AAA. An extensive discussion followed resulting in the following motion by Director Guterman, seconded by Clark and Funchess:

'That the Committee on Organization and Policy of the Experiment Station Sub-section invite the Committee on Organization and Policy of Extension Work to join with it in recommending to the Executive Committee of the Association of Land-Grant Colleges and Universities the appointment of a Land-Grant Committee, representing the subject-matter areas of the Land-Grant Colleges, to work with the U. S. Department of Agriculture on problems of postwar programs in agriculture at the national level.'

"The motion was passed unanimously."

On the afternoon of October 24, 1943, ESCOP reconvened, and we find the following minutes concerning postwar planning:

"III-L. The following members were present: Chairman Buchanan, Clark, Johnson, Hill, Jardine, Corbett, Funchess, McDowell, Guterman, Dorman, and Orton. Visitors: M. L. Nichols, Lininger, Gilbert, Slate, Howard Tolley, and Ray Smith.

"Chairman Buchanan called attention to the resolution regarding postwar planning and the resolution was read by the Secretary. Dr. Tolley commented on the thinking of the Department of Agriculture to the effect that one of the most important points relates to how State thinking can be coordinated with federal thinking

"most effectively. He expressed the thought that a Land-Grant Committee on the National level which would bring in the state thinking would be highly desirable and would be very welcome to the Interbureau Committee.

"Ray Smith agreed to Mr. Tolley's remarks and added that the postwar plans should go back to the farm people for discussion and that their views should be brought back to the national committee for revision and further discussion.

"Dr. Buchanan raised the question regarding technique of setting up the proposed land-grant committee. It was thought that such a committee should be made up of members representing subject matter as well as geographical areas. At least one representative from the Extension Service and one from the Experiment Station should be included.

"It was brought out during the discussion that contact with Senator George, Chairman of the Senate Committee on Postwar Planning has already been made."

Later at this meeting ESCOP joined with ECOP (the Extension Organization and Policy Committee) in urging the Executive Committee as follows:

"RESOLVED: That the Executive Committee be requested to authorize and appoint a special committee representing subject-matter areas in the Land-Grant Colleges and Universities to work with the corresponding committee of the United States Department of Agriculture on postwar programs in agriculture on the national level." (54)

This recommendation was approved in the form of the following item 32 appearing in the minutes of the Executive Body of the 57th Annual Convention, October 26-28, 1943:

"Approval was given to the request of the Committee on Extension Organization and Policy and the Committee on Experiment Station Organization and Policy that the Executive Committee be authorized to appoint a special committee representing subject-matter areas in the Land-Grant Colleges and Universities, to work with the corresponding committee of the U. S. Department of Agriculture on postwar programs in agriculture on the national level. The incoming president was authorized to appoint a postwar program planning committee to comprise not less than 15, nor more than 20, members." (55)

On Dean and Director C. B. Hutchison (California), elected President of the Association for the year 1944, fell the responsibility of naming the membership of the committee. Associate Director Noble Clark (Wisconsin) was made chairman. The report appears in full in the Proceedings of the 58th Annual Convention of the Association, (57) It was also published in the form of a 62-page booklet under the title, "Postwar Agricultural Policy," a forward-looking document that was distributed widely by the land-grant institutions for discussion at Extension, farm organization, and similar meetings. The document stimulated penetrating discussion as reflected in the following principal subtitles:

I. Agriculture and the National Welfare
II. Adjustments in Agricultural Production
III. Agricultural Prices
VI. Land Tenure
V. Conservation of Land, Water, and Forests
VI. Rural Living and Social Facilities
VII. The Role of Farm People in Policymaking

"The booklet was widely distributed throughout the United States. The first edition included 112,219 copies; a second edition was for 6,500 copies; and recent requests indicate a third edition will be necessary," the committee reported in 1945. (58)

Establishment of Agricultural Board in National Research Council

In the Agenda prepared by Chairman Buchanan for the October 21-26, 1944, meeting of ESCOP, we read under item V. 93:

"The following resolution was adopted by the Executive Committee of the Land-Grant College Association and forwarded to the National Research Council:

'Resolved: That the Executive Committee of the Association of Land-Grant Colleges and Universities recommends that the National Research Council establish an Agricultural Board in the Division of Biology and Agriculture and pledges its cooperation to the Council in the undertaking.'

"The National Research Council formally approved the organization of an Agricultural Board. The Board will probably have a membership of about twelve to fifteen. Appointments to the Board at the time of its first meeting were as follows:

"Ex-Officio--Chairman Ross G. Harrison of the National Research Council
Chairman Robert F. Griggs of the Division of Biology and Agriculture of the National Research Council
President W. C. Coffey, University of Minnesota, Chairman
Dean C. H. Bailey, University of Minnesota, Vice Chairman
Dean C. B. Hutchison, University of California
Dr. L. A. Maynard, U. S. Regional B. J. Laboratory and Cornell University
Dean H. P. Rusk, University of Illinois
Dean E. B. Fred, University of Wisconsin
Dean R. E. Buchanan, Iowa State College, Secretary"

* * * * * * *

"In the opinion of your chairman, the Committee on Experiment Station Organization and Policy and the Board of Agriculture should each understand the operations of the other. On behalf of our committee, your chairman has asked Chairman Griggs of the Division of Biology and Agriculture to meet with us at some convenient time to discuss the

"place of the Board in the agricultural picture."

Renewed Legislative Considerations, 1944

Although surrender of Nazi Germany and Japan was still a year away, the victory of United Nations arms became apparent in 1944. Directors of the Experiment Stations returned to more active consideration of legislation deferred two years earlier. Minutes of the ESCOP meeting held June 21-23, 1944, in Washington, D. C., include a notation stating that "Director Baver reported on the National Nutrition Bill in line with the third recommendation by the Subcommittee on Home Economics and Nutrition." Director Baver's committee was authorized "to clear any minutes with Dr. Auchter." The bill was approved as revised. It was introduced by Congressman Stephen Pace as H. R. 2266.

Director Baver (North Carolina) also reported on a hearing "held before the House Subcommittee. One of the chief obstacles to securing the final increment of Bankhead-Jones funds is the substantial reversions which have been turned back by the several stations. Last year 1942-43 it amounted to $58,000 and in 1943-44 it probably will be more." (59)

Noted also should be the discussion and action taken at the Peoria meeting of the North Central Directors in April concerning "probability of a huge program of farm building construction after the war and the great need of research by the several experiment stations in order that such construction should be efficient in meeting the requirements of a varied climate and utility." Associate Director W. V. Lambert (Indiana) leader of the project for the North Central Region, was named Chairman of the Committee on Rural Housing. On October 21-26, 1944, he "reported results of two meetings, one in July at Chicago and another on September 21. A bill was drawn and approved by the committee embodying Federal appropriations to the Experiment Stations for research (Title I) and to the State Extension Service (Title II). Chairman Lambert was requested to present the bill to the Executive Committee and make a final report later." (60) The bill was drawn in collaboration with the Department of Agriculture's Research Administrator E. C. Auchter who had the proposed bill referred to the Department's Solicitor for an opinion. In returning it to Director Buchanan, Dr. Auchter wrote, "You will note from this letter that the Solicitor feels that the specific mention of cooperation with experiment stations will not prohibit cooperation with other institutions. He also feels that the Research Administration or the Government would have the authority to construct experimental buildings the same as the states." (61)

In 1945 Dr. Lambert "asked to be relieved of the responsibility as chairman of this committee because he left Purdue University to become assistant research administrator in the United States Department of Agriculture." At the meeting of the Executive Committee held in April it was agreed that Director Dorman of Mississippi should be asked to head the committee. Dr. Dorman consented but subsequently asked to be relieved of the assignment inasmuch as he had to take over the Acting Presidency at Mississippi State College. He was succeeded by Associate Director Immer (Minnesota). (64)

However, the Farm Building Bill, like the Nutrition Bill and other legislative proposals were destined to wait until the war's end when many of their features were combined in the Research & Marketing Bill of 1946.

The Experiment Station Section was not the only one of the various sections in the Association urging legislation. Dr. Buchanan's agenda for the July 12-14, 1945, ESCOP meeting (62) contain copies of numerous measures proposed in that year. Among those listed of interest to the Land-Grant Association units, discussed by ESCOP during its October 1945 meetings (64) were: S-619, Vocational Bill; H. R. 2827, Military Service Personnel Bill; S-1248, Fulbright Bill to Establish a Bureau of Scientific Research Purposes, related to Kilgore Bill, S-702; H. R. 3440, National Security Bill for establishing a large military board for administration, with few civilians; S-882 and H. R. 2922, Fertilizer Policy Bill sponsored by American Farm Bureau Federation. ESCOP was also developing its final version of the agreement on soil surveys. The July minutes report that "Chairman Buchanan reviewed the new agreement between the Soil Conservation Service, the Agricultural Experiment Stations, and the Bureau of Plant Industry."

The Executive Body of the Association in 1945 (58) approved the following ESCOP and ECOP sponsored resolution "with the proviso that the Committees on Resident Instruction and Home Economics be asked to participate:

> " .... . that there be created in each area a small drafting committee to develop separately a revision of federal legislation pertaining to the respective areas. Following the preliminary work by the committees in each field, it was proposed that the composite report be presented to the Executive Committee to be used in efforts of the Association in guiding the revision of old and formulation of new legislation pertaining to the program of the Land-Grant Colleges and Universities."

Land-Grant Association Reorganized

The 1944 annual convention (57) had voted that the full text of the proposed amendments and bylaws to the constitution of the Association of Land-Grant Colleges and Universities be circulated for consideration by the various divisions and sections. The July 1945 ESCOP minutes report that "After much discussion, it was moved by Dorman that the Chairman and Secretary confer with officers of the Extension Committee on Organization and Policy and to advise that this Committee is not in sympathy with certain proposed changes in the bylaws, and to explore the possibility of joint action with the Extension Committee in presenting these points to the Executive Committee."

The Proceedings for the 59th Annual Convention state that "The report of the Committee (Special Committee on Association Organization) was presented by President Morrill of Minnesota and President Jackson of South Dakota, who requested that the Executive Body grant the privilege of discussing the proposed constitution and bylaws previous to the introduction of the amendments. Discussion of the questions involved followed and was participated in by many members of the Executive Body. At the close of the discussion, with the approval of the Executive Body, as expressed by a viva voce vote, a roll call was made on the reaction of the proposed amendments to the constitution and bylaws. Thirty-nine institutions voted in favor of the proposed plan. There were no unfavorable votes. A motion was then made by President Hetzel of Pennsylvania, and seconded by Chancellor Boucher of Nebraska, that the proposed amendments to the constitution and bylaws, the full text of which follows, be submitted at the next annual meeting of the Association."

The final minutes of the Executive Body read as follows:

> "On motion duly made and seconded the Executive Body adjourned at three fifty-five p. m. on December 17, 1946, to reconvene at the next meeting of the Association as the Senate."

One of the first steps taken under the new organization was appointment of Mr. Russell Thackrey as Executive Secretary-Treasurer. The new position was provided for under the new constitution and combined the duties formerly performed by the Director of Information of the Association, the Secretary-Treasurer, and the editor of the Proceedings. The Executive Secretary-Treasurer is employed by the Association on an annual basis. (65)

National Science Foundation

In the minutes of the Executive Body meeting of October 24, 1945 (58) we find a report made by a special committee consisting of Presidents E. B. Fred (Wisconsin) and Edmund E. Day (Cornell) recommending a resolution "in regard to National Research Foundation." This was the first action taken by the Association, with considerable interest on the part of the experiment stations, in what was to eventually become the National Science Foundation. In 1946, Dr. Day gave a further report. By that time the proposed agency was referred to as the National Science Foundation. (63)

The Executive Body also approved a resolution under which the Association of Land-Grant Colleges and Universities and the National Association of State Universities recommended adoption of a resolution recommended by Dr. Day, namely that "the best means of establishing such a Foundation were embodied in S. 1850, a bill introduced in the second session of the 79th Congress under the bi-partisan sponsorship of Senators Kilgore, Magnuson, Johnson of Colorado, Fulbright, Saltonstall, Thomas of Utah, and Ferguson," and "that the two associations again urge Congress to establish a National Science Foundation through the enactment of legislation such as was drafted under S. 1850." It took some years for the proposed legislation finally to become law. The minutes of the Association Senate of the 61st Annual Convention refer to a Presidential Veto of the bill passed in the 80th Congress. Resolutions of 1945 and 1946 were again approved. In 1948, the 62d Convention, through its Association Senate, reaffirmed its support of this legislation and "the incorporation in it of the principal of partial distribution of research funds." During the 63d Annual Convention, the Association Senate voted to reaffirm the resolution of 1948. The Foundation was finally established by Act of Congress in 1950.

Amendment to Bankhead-Jones Act

The years of ESCOP discussions, starting prior to the War with respect to an expanded program in marketing research, finally bore fruit in 1946. In Dr. Buchanan's agenda for the July 12-14, 1945 meeting (62) is a notation that in April the Association of Commissioners' Executive Committee "together with representatives of agricultural interests in North Carolina met to discuss the introduction into Congress of a bill which would take the place of the Cooley bill which was opposed by the Land-Grant College Association. The Extension Service and Agricultural Experiment Station in North Carolina have gone into this matter more fully than any other state." ESCOP's minutes of a meeting held in Washington during April 21-22, 1946 (68) record:

"The Chairman then presented as new business the subject of overall legislation to broaden the Bankhead-Jones Act to include nutrition, housing, and cotton research. He reviewed the efforts of the Cotton Council to secure $5,000,000 for special cotton research and the interest of the farm organizations. Also the meetings which had been held with Secretary Anderson and members of Congress. Mr. Pace had suggested that it be sponsored by Messrs. Bankhead and Flannagan, but the matter was left to this Committee to decide whether it should be a new bill or an amendment to the Bankhead-Jones Act.

"After extended discussion, it was unanimously agreed to prepare a draft of the proposed bill as an amendment to the Bankhead-Jones Act. This was done and approval of the Executive Committee was secured together with instructions to move ahead. The Secretary was instructed to prepare the mimeographed copies of the approved amendment for circulation by the Chairman to all directors, with urgent request that criticisms be returned to him immediately. It was moved by Director Clark 'that the Chairman, Directors Baver and Dorman, be authorized to make such minor changes in phraseology of the proposed bill as seems justified after receiving suggestions from the directors and others interested.' The motion was seconded by Director Johnson and passed."

Director Baver of North Carolina, as member of ESCOP and chairman of the Subcommittee on Legislation, and other members of ESCOP engaged in considerable initiative toward getting Congressional endorsement. Director Baver, Associate Director Noble Clark (Wisconsin), and Director W. B. Kemp (Maryland) on June 14, 1946, appeared before the Committee on Agriculture, House of Representatives, to testify on behalf of the Agricultural Experiment Stations on H. R. 6548 and H. R. 6692, "To provide for further research into the basic laws and principles relating to agriculture and to improve and facilitate the marketing and distribution of agricultural products." (69) Director P. S. Burgess (Arizona) was unable to be in Washington, but sent testimony on behalf of Directors in the Western Region in support of the measure. Secretary Clinton Anderson testified on behalf of the measure, and the Department of Agriculture gave it the fullest support. The measure was passed by Congress and approved by President Harry S. Truman on August 14, 1946. Thus for the fifth time in history penetrating study, free discussion, and cooperative sponsorship by the Agricultural Experiment Stations and the U. S. Department of Agriculture obtained major authorizations from the Federal Congress for the support of publicly-sponsored agricultural research.

"Out of the cotton patches of the South," commented Dr. Leonard Baver two years later, after he had left North Carolina and become Director of Research for the Hawaiian Sugar Planters' Association," where the Nation's number one economic problem is supposed to exist - a new piece of federal legislation was born. Farmers within that area had asked the Directors of their State Agricultural Experiment Stations to analyze the cotton problems of the South and prepare a research program which would help to solve them. Congressman Stephen Pace of Georgia, always a champion of the cotton farmer and an ardent supporter of research, asked the United States Department of Agriculture and the states to

"give him a cotton program that would permit King Cotton to have the same advantages as the up and coming synthetic fiber industries. He promised to do all he could to get Congress to accept the program.

"Consequently, technical workers and administrators from both the agencies originally established in 1862 conferred with farmers, cotton ginners, cotton buyers, cotton mill men, and other specialists and scientists. A comprehensive, well-conceived, practical, and far-reaching research program for the cotton South was developed. But the Southern Directors saw the need of a research program even wider in scope than just cotton alone. Through a democratic exchange of ideas, they were acquainted with the problems of their fellow Directors in other areas. The result, - an overall research bill for American agriculture was born. When the final version had been completed, it contained the ideas of State Experiment Stations, the United States Department of Agriculture, farm organizations, farmers, industrialists, State Departments of Agriculture, and others.

"Then came the question of a sponsor in both the House of Representatives and in the Senate. John Flannagan, then democratic chairman of the House Agricultural Committee, from the Blue Ridge Mountains of Virginia, and Clifford Hope, agricultural statesman from Kansas and ranking member of the then Republican minority, were co-authors of the new bill in the House. Senator John Bankhead introduced the bill in the Senate, as his last outstanding accomplishment for agriculture, just two days before he died. Everyone interested in agriculture was talking about and supporting the new bill, unofficially baptized as the Flannagan-Hope Bill. It passed both Houses of the 79th Congress unanimously and was signed by President Truman. As signatures were attached to the bill it received a new name, - The Research and Marketing Act of 1946.

"Something that has set a new pattern in democratic research technics was added in this Research and Marketing Act. The State Experiment Station Directors realized that marketing research was an interstate affair. They knew that other problems did not stop at the state line. They had ample and fruitful experiences in cooperative research. This was not a new technic for them. What they wanted was some kind of machinery which would enable them to cooperate together more fully. They wanted more of a kind of cooperation that would start at the grass roots and go on up until it reached the United States Department of Agriculture. So they inserted a Section 9(b)3 in Title 1 of the Act. It reads in part:

> 'Not more than 25 per centum of the sums appropriated for any fiscal year under this section shall be allotted to the States for cooperative research in which two or more State agricultural experiment stations are cooperating to solve problems that concern the agriculture of more than one State. The funds * * * shall be used only

'for cooperative regional projects recommended by a committee of nine persons elected by and representing the directors of the State agricultural experiment stations***.'

"Oldtime research men arched their eyebrows at this provision. They were skeptical. How could this be administered, they asked, by a group of men scattered from the Atlantic to the Pacific? But, the State Experiment Station Directors were constituted of men who knew how to get things done. They did not linger long over this question. Technical men in each of the four Land-Grant College regions met and discussed the major problems of their areas with each other. Thousands of dollars of state funds were spent for travel to get the necessary technical workers together. It was a concerted attack on regional problems and it had the effect of dissolving state boundaries to approach the problem where it existed.

"The Committee of Nine was organized. Each region elected two of its members to serve its interests. The Home Economists of the Nation elected one of their members to handle their interests. So, the Committee became one of eight men and one woman. The Committee met and analyzed the programs of work of the different regions. Time was at a premium, but they faced the tremendous task with courage and fairness. Finally, a research program was cut to fit the anticipated cloth of appropriations by the Congress. Then came the appropriation bill of the Federal Congress. Economy had cut the cloth to a smaller size and the approved program had to be further revised, and the Committee of Nine responded again in quick, thorough, and decisive action. Regional programs were given final approval and sent to the Secretary of Agriculture for his analysis and approval. At long last The Research and Marketing Act was in operation. New ideas and new technics in cooperative research were sparkplugging new progress in the field of agriculture that would be felt in time all the way from the producer in his field to the consumer in his home. Yes, democracy in agricultural leadership was still emanating from the people's institutions, the Land-Grant Colleges, where science is in first hand contact with the needs of the people and where the people, in turn, have faith in the facts which come to them."

The measure was passed in the form of an Amendment of the Bankhead-Jones Act and the Agricultural Marketing Act of 1946. Section (1) of the Bankhead-Jones Act was rewritten and sections (9), (10), and (11) added to constitute Title I of the new legislation. Title II, designated as the Agricultural Marketing Act of 1946, constituted what was referred to prior to the war as the Fulmer bill. Early in the First Session of the 79th Congress, Congressman Flannagan of Virginia succeeded to the Chairmanship of the Committee on Agriculture following death of Mr. Fulmer. He obtained a House resolution that authorized the Committee on Agriculture to make an investigation greater in scope than that undertaken in the 78th Congress. See ATTACHMENT R, A VISUALIZED PROGRAM FOR MARKETING, by Honorable Clifford R. Hope.

In brief, the farm legislation embodied in the act combined the experiment station bill with the Hope marketing bill. Title III provided authorization for appointing a National Research and Marketing Advisory Committee and advisory committees for various specialized commodity groups.

The Act's authorization for expenditures incurred in connection with regional cooperation among two or more experiment stations and between the stations and the Department of Agriculture provided a new administrative angle. Informal research between experiment stations and several States had been going on for a long time. Section 9(b)(3) authorized sums to be appropriated for the Regional Research Fund and also authorized a Committee of Nine persons elected by and representing the directors, which was charged with recommending to the Secretary of Agriculture a program of cooperative regional projects to be supported by the regional fund.

While there was no administrative communication from the Secretary's Office concerning administration of the Research and Marketing Act insofar as it applied to Agricultural Experiment Stations, ATTACHMENT T, in the form of a letter addressed by R. W. Trullinger, Chief, Office of Experiment Stations, to Director R. E. Buchanan, November 25, 1946, underlines some important reporting and accounting problems that became necessary with the advent of a greatly stepped-up payments-to-States program that grew out of the Research and Marketing Act. Other interpretations of the provisions in the new legislation were issued by O.E.S. from time to time and those relating to Regional Research were incorporated into a Manuel of Procedures on Cooperative Regional Research.

Early administrative experiences relative to Regional Research are given in ATTACHMENT S, "Problems of Planning Regional Research Under the Research and Marketing Act," by E. C. Elting, Associate Chief, Office of Experiment Stations, U.S.D.A., April 14, 1949.

USDA Personnel and Organizational Changes

On February 3, 1945, the Secretary of Agriculture announced the resignation of Dr. E. C. Auchter as Administrator of Agricultural Research to become Director of the Pineapple Research Institute in Honolulu, Hawaii. The Secretary also announced that Dr. P. V. Cardon, who had been Assistant Administrator 1942-45, would succeed Dr. Auchter.

In 1946, Dr. J. T. Jardine, Chief of the Office of Experiment Stations, and Assistant Agricultural Administrator, retired. ESCOP's minutes of Aug. 9-10 record that "Director Henney was requested to prepare a resolution relative to the long service of Dr. J. T. Jardine on this Committee." (70) Dr. Jardine had been a member of ESCOP, first as Director of the Oregon Experiment Station and subsequently as Chief of the Office of Experiment Stations. His service in the Department had bridged from the ending of the True-Allen era to the passage of the Research and Marketing Act--all trying years including those of World War II. Dr. Jardine was succeeded as Chief and Assistant Agricultural Administrator by Dr. R. W. Trullinger. The minutes of October 5-6, 1946, state, "The committee approved the suggestion that Dr. Jardine be invited to attend the Chicago meeting and be tendered a dinner in his honor."

On December 3, 1946, Secretary of Agriculture Clinton P. Anderson announced the appointment of Mr. E. A. Meyer, at that time Assistant Administrator of the Production and Marketing Administration, as designated to be in charge of developing plans for and programs to be carried on under the Research and Marketing Act and for coordinating this work with existing work of the Department. (71)

On March 19, 1947, Secretary Anderson also issued MEMORANDUM NO. 1187, directing that the Agricultural Research Administrator, "in addition to authorities heretofore conferred upon him, is hereby authorized and directed to coordinate all research activities (other than economics research) of the various agencies. . . ." (ATTACHMENT U). On July 1, 1947, he issued MEMORANDUM NO. 1197, that combined various research bureaus, also the Office of Experiment Stations and others into the Agricultural Research Administration. (ATTACHMENT V). On July 29, 1949, Secretary Charles F. Brannan issued MEMORANDUM NO. 1237, adding to the authority of the Agricultural Research Administrator that of administering the Research and Marketing Act. (ATTACHMENT W), thus terminating the separate administration of research under the Research and Marketing Act.

While these executive changes were bringing research activities in the Department of Agriculture closer together, a Task Force on Agriculture Activities, a subcommittee of the Commission on Organization of the Executive Branch of the Government, was also studying plans for reorganization of the Department. The agriculture task force had as its chairman Dean and Director H. P. Rusk (Illinois), also Dean and Director W. H. Martin (New Jersey) as vice chairman. Other members of the task force included: William Rhea Blake, Chester C. Davis, D. Howard Doane, John M. Gaus, Frank W. Peck, and Director William A. Schoenfeld of the Oregon Experiment Station. (72) Although not all of the recommendations of the task force of the Commission were followed there is considerable similarity between some of the basic recommendations and the organization of the Department of Agriculture as made in 1953 with approval of Congress. Under that organization there was created an assistant secretaryship for States Relations under which all fields of activity--Federal support of State Agricultural Experiment Stations and of State Agricultural Extension Services--are included. (73)

Request for Consolidation Legislation Revived

In a letter addressed to the Secretary of Agriculture under date of July 21, 1945, Director of the Budget Harold D. Smith revived the matter of the proposed measure to effect a consolidation of the existing acts into one bill for research. He pointed out that the Land-Grant Colleges had asked deferment of this matter until after the war.

> "It seems to me, however, that the progress of the war is such that we can consider this problem again. It is my understanding that the Land-Grant College Committee on Organization and Policy will now be generally receptive to considering this matter. . . ." (74)

In ESCOP's meetings of April 21-22, 1946, we read:

> "The first item of old business was a discussion of the codification of the Federal grants for research. It was reported that the Extension Committee on Organization and Policy voted yesterday against taking further action at present. It was moved by Director Baver 'that further efforts on codification be postponed indefinitely.'"

However, the minutes report later that,

> "The Executive Committee took action concerning codification, and recommended that the Experiment Station on Organization and Policy keep this item on the agenda." (68)

Considerable cooperation was given the Office of Experiment Stations and the Department of Agriculture by ESCOP in the consideration of various drafts of the proposed consolidation measure. Hearings were held before the House of Representatives Agriculture Committee on July 8, 1955, for the purpose of considering H. R. 5562, H. R. 6851, and S. 1759, entitled: "To consolidate the Hatch Act of 1887 and laws supplementary thereto relating to the appropriation of Federal funds for the support of agricultural experiment stations in the States, Alaska, Hawaii, and Puerto Rico." Testimony was presented by Department officials, including Director of the State Experiment Stations Division, Agricultural Research Service. The measure was passed and approved by President Eisenhower on August 11, 1955.

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(45) Minutes of Meeting, ESCOP, Roanoka, Va., September 2-4, 1940.

(46) Letter of January 11, 1960, from Dr. R. E. Buchanan, Director Emeritus, Iowa State University, to Dr. H. C. Knoblauch, State Experiment Stations Division, Agricultural Research Service, USDA, Washington 25, D. C.

(47) First Annual Report of the New York Agricultural Experiment Station, Geneva, N. Y.

(48) Marketing Farm Commodities, Hearing Before the Committee on Agriculture, House of Representatives, 77th Congress, First Session, on H. R. 1382,"A Bill to Provide for the Development of Marketing and Marketing Services for Farm Commodities," March 11 to March 19, 1941.

(49) Agenda, Chicago Meeting of ESCOP, November 5-12, 1941, compiled by Director R. E. Buchanan (Iowa), Chairman, 316 Curtiss Hall, Iowa State University, Ames, Iowa.

(50) Letter written on October 16, 1942, by W. A. Lloyd, Director of Information, Association of Land-Grant Colleges and Universities, to Dr. R. E. Buchanan (Iowa), Chairman of ESCOP.

(51) Experiment Station Record, Volume 26, January-June 1942, pp. 1-5, USDA, Agricultural Research Administration, Office of Experiment Stations.

(52) Letter to President T. O. Walton, October 9, 1942. See Agenda, Chicago Meeting of ESCOP, October 24-30, 1942, Chicago, Ill., compiled by Director R. E. Buchanan (Iowa), Chairman.

(53) ESCOP Minutes, October 24-30, 1942, Chicago, Ill.

(54) ESCOP Minutes, October 23-28, 1943, Chicago, Ill.

(55) Proceedings of the 57th Annual Convention of the Association of Land-Grant Colleges and Universities, October 26-28, 1943, Chicago, Ill.; pp. 41-48, 48-60; 200; 243.

(56) Letter of October 12, 1943, by Robert E. Griggs, Chairman, Division of Biology and Agriculture, National Research Council, to R. E. Buchanan.

(57) Proceedings of the 58th Annual Convention of the Association of Land-Grant Colleges and Universities, October 24-26, 1944, Chicago, Ill., pp. 226, 234-276.

(58) Proceedings of the 59th Annual Convention of the Association of Land-Grant Colleges and Universities, October 24-25, 1945, Chicago, Ill., pp. 41, 42-56, 57.

(59) ESCOP Minutes, June 21-23, 1944, Washington, D. C.

(60) ESCOP Minutes, October 21-26, 1944, Chicago, Ill.

(61) Letter of September 19, 1944, by E. C. Auchter to R. E. Buchanan, appearing under item IV N in agenda compiled by Director Buchanan for ESCOP Meeting of October 21-26, 1944.

(62) Item IV N, Agenda prepared by Director R. E. Buchanan for ESCOP Meeting, July 12-14, 1945.

(63) Proceedings of the 60th Annual Convention, Chicago, Ill., December 16-18, 1946, p. 83.

(64) ESCOP Minutes, July 12-14, 1945, Washington, D. C.

(65) Proceedings of 61st Annual Convention, Washington, D. C., November 10-12, 1947, pp. 74, 169-171.

(66) Proceedings of 62d Annual Convention, Washington, D. C., November 9-11, 1948, p. 268.

(67) Proceedings of 63d Annual Convention, Kansas City, Mo., October 25-27, 1949.

(68) ESCOP's Minutes of Meeting held in Washington, D. C., April 21-22, 1946.

(69) Hearings Before the Committee on Agriculture, House of Representatives, 79th Congress, 2nd Session, on H. R. 6548 and H. R. 6692 (H. R. 6932 reported), June 13-26, 1946, inclusive. Serial M.

(70) ESCOP Minutes, August 9-10, 1946, Washington, D. C.

(71) USDA Press Release 2632-46, Washington, D. C., December 5, 1946.

(72) Task Force on Agriculture Activities, Appendix M, Prepared for the Commission on Organization of the Executive Branch of the Government, January 1949. U. S. Government Printing Office, 1949.

(73) Department of Agriculture, A Report to Congress. The Commission on the Executive Branch of the Government. U. S. Government Printing Office, 1949.

(74) Material Prepared as Agenda for Chicago Meeting of ESCOP, October 22-25, 1945.

(75) Miscellaneous Hearings Committee on Agriculture, House of Representatives, Eighty-fourth Congress - Serial D. D., pp. 23-67.

ATTACHMENT L

(Resumes of matters dealt with by the Committee on Experiment Station Organization and Policy, from its organization in 1905 to 1940, and a similar resume of matters dealt with in reports of the Joint Committee on Projects and Correlation from the time of its organization in 1914 to 1940. Prepared by Dr. F. D. Fromme, Office of Experiment Stations, and submitted to Dr. R. E. Buchanan of the Iowa Agricultural Experiment Station, Chairman of ESCOP, March 29, 1940.)

RESUME OF MATTERS DEALT WITH IN THE REPORTS OF THE COMMITTEE ON EXPERIMENT STATION ORGANIZATION AND POLICY, FROM ITS ORGANIZATION IN 1905 TO 1940.

20th Annual Convention of the Association of Land-Grant Colleges, November, 1906.
The relation of the station to the Adams Act.
Character of experiments to be taken up under it, etc.
Fundamentals in organization.
Functions of trustees and of executive officers should be clearly differentiated.
Source of authority.
Propriety in relation between employer and employed. (The same individual should not hold administrative position and serve on the Board of Trustees.)
Importance of reasonable security of tenure of position.

21st Annual Convention, May, 1907.
The use of the official mailing list for distribution of station publications.
Importance of adequate preparation for research.
Graduate work recommended as a condition of advancement.
Elevation of the Office of Experiment Stations to the rank of a Bureau.

22nd Annual Convention, November, 1908.
Relation between work of research and that of administration in experiment station policy.
Permanence and continuity as prime essentials in station work.
Inspection work in relation to other lines of station activity--proper basis for organization.
Relation of working staff of the station to instruction in the college.

23rd Annual Convention, August, 1908.
Methods of dissemination of the results of station investigations.
Publications by the stations themselves.
Series.
Technique.
A research journal for the experiment stations recommended.

24th Annual Convention, November 1910.
Station finances.
Supply of funds, public and private.
Allotment of funds.
Expenditures, including purchasing.
Bookkeeping, including receipts from sales.
Assignments of receipts.
Necessity of not undertaking more work than the funds will adequately support.
Importance of clear distinction between investigations and demonstrations.

25th Annual Convention, November, 1911.
Sale of station publications.
Attendance upon meetings of scientific societies.
Relation of the station to extension.

26th Annual Convention, November, 1912.
Publication of scientific inquiries under the Adams Act.
Organization of the station library.
Distribution of station publications.

27th Annual Convention, November, 1913.
Station mailing list.
The fallacy of uniform salaries.
Retiring allowances.

28th Annual Convention, November, 1914.
Desirability of sharp differentiation between station and extension fields.
Publication of results owed to the public.
Advantages of publication in the Journal of Agricultural Research.

29th Annual Convention, August, 1915.
Functions of the experiment stations in relation to various forms of regulatory activity.
Emphasis on the experiment station as a research institution.

30th Annual Convention, November, 1916.
(No formal report presented, Publishing the work of the experiment stations considered by the Committee.)

31st Annual Convention, November, 1917.
Publishing the work of the experiment stations.
Regular bulletins, designated as "bulletins."
Research bulletins.
Technical papers published in scientific journals.
Regulatory bulletins.
Circulars.
Annual reports.
Press bulletins or notices.

32nd Annual Convention, January 1919.
Relation of American agricultural institutions to the changed conditions and problems coming out of the war, and preparation for recognizing and meeting them.

33rd Annual Convention, November, 1919.
Position and outlook of the experiment stations.
General situation.
The station staff vital.
Necessity for adequate salaries and more general differentiation in force.
Station funds.
Needs of the stations for increased financial support.
Larger provision of scholarships, research fellowships, and research professorships.

34th Annual Convention, October, 1920.
Distributing the results of station work.
Maintenance of classified mailing lists.
Frequent mailing list revision.
Prompt notices of new issues.
Critical attention to bulletins in manuscript.
Systematic provision for publicity through the press regarding the station and its work.

35th Annual Convention, November, 1921.
Consideration of Dr. Webber's paper on "Problems of Agricultural Investigation," presented at the preceding convention.
Kind of work the stations should do.
Organization of station investigation around problems.
Disadvantage of subordinating the individual in cooperative effort.
Closer relations between the U.S.D.A. and the stations, and coordination of their work.
Establishment of office of Director of Scientific Work.

36th Annual Convention, November, 1922.
Desirability of a general plan or program for the activities and development of each individual station.
Advantages of a program of work.
To the individual research worker.
To the administrative officers of the station.
To the general public.
The preparation of a program of work.

37th Annual Convention, November, 1923.
Tentative code of ethics for experiment station men.
Publishing the financial resources of the stations.

38th Annual Convention, November, 1924.
Ethics of station work.
A code for experiment station workers.
The use of the station frank.

39th Annual Convention, November, 1925.
Purposes of the Purnell Act.
Type of investigation under it.
Character of projects.
Concentration of effort.
Need for trained workers.
The problem the unit of effort.

Cooperation.
The function of administration.
Recommendations of principles as bases of policy in administration of the Purnell Act.

40th Annual Convention, November, 1926.
Relation of the nine months of employment in the college or university to efficiency in research.
Importance of fully maintaining standards of experiment station research.
How far should the practice be favored or encouraged of using the Purnell Fund mainly for salaries, thus spreading it quite broadly and relying on State funds for supplying the further requirements?

41st Annual Convention, November, 1927.
More critical scrutiny still needed in outlining new research projects.
Relation of the nine months basis of employment in the college or university to efficiency in research, and the adjustment of salaries for station workers commensurate with the standards and requirements of yearly service.
Policy with reference to inventions and discoveries of commercial value which result from station investigations.

42nd Annual Convention, November, 1928.
Importance of continuity in research on the basis of forward looking procedure.
The relations of the experiment stations in cooperative research with commercial enterprises and interests.
The policy with reference to outside work and relationships of experiment station employees.
Precautions to be observed in these matters were emphasized having due regard for the experiment station as a public institution and its obligations to the farming people.

43rd Annual Convention, November, 1929.
Experiment station travel--while to large extent a matter for local determination, certain general principles are set forth to aid in individual cases.
Relationships with commercial enterprises and interests, considering two phases of the general problem of "relationships," namely, "cooperative research" and "the acceptance of gratuities."

44th Annual Convention, November, 1930.
Cooperation between the Stations and the U. S. Department of Agriculture and the Director's responsibility for such cooperative projects.
Careful scrutiny by director of cooperative projects.
Final consideration and signature of memoranda of understanding by director and chief of cooperating bureau.
Department should keep directors informed of nature and progress of broad projects under special legislation.
Station research in forestry.
Policy in use of Federal funds for experiment station research in forestry.
Committee instructed to continue study with reference to use of Federal funds for research in forestry.

45th Annual Convention, November, 1931.
Continued study with reference to use of Federal funds for research in forestry.
Formulation of research projects recurrent.
Points essential for acceptable project given in brief.

46th Annual Convention, November, 1932.
Committee considers publications problems from two standpoints: (1) What publication policy should be followed when funds are reduced? (2) What policy of retrenchment if any should be followed as to distribution?
Attempting to meet publication needs with reduced funds.
Domestic distribution of station publications.
Foreign distribution of station publications, offering major points in the development of a policy.

47th Annual Convention, November, 1933.
Adjustment of the station research program to meet the new situation in respect to emergency investigations and special service with reduced budgets.
The desirability of using, if possible, more effective methods of keeping the public properly informed as to the relationships of agricultural research to public welfare.

48th Annual Convention, November, 1934.
Additional and earnest emphasis on research in the field of economics and sociology.
Administrative leadership in promoting cooperation within and among experiment stations. Directors urged to take leadership and give critical attention to conference programs.
Outlets for publication of reports of a specialized or very technical nature stressed and recommendation made that chairman of subsection appoint a committee of three to study problem and report at next meeting.

49th Annual Convention, November, 1935.
In view of two standing committees dealing with research (Committee on Experiment Station Organization and Policy and Joint Committee on Projects and Correlation of Research) the following points were suggested for consideration by the Experiment Station Section with a view to appropriate recommendations to the Executive Body: (1) The real needs for a year-round committee, (2) a reconsideration of the functions of the two standing committees, namely, the Joint Committee on Projects and Correlation of Research and the Committee on Experiment Organization and Policy, (3) following discussion of the Body as a whole, the appointment of a special committee to report back to this section before the close of these sessions with recommendations for consideration and approval by the Executive Body of the Association, (4) such recommendations should include provision for financing activities of the Committee.
Broad application of much of the experiment station research.
Formulation of principles of policy for laboratories discussed--to be reported by Joint Committee on Projects and Correlation of Research.
Recommended special attention be given subject of conference.

A special committee which had been appointed previous to the official sessions to consider the functions of the Committee on Experiment Station Organization and Policy and the Joint Committee on Projects and Correlation of Research, presented the following report:

"To the Sub-Section of Experiment Station Work:

It is the judgment of your committee that the functions of the Committee on Experiment Station Organization and Policy and of the Joint Committee on Projects and Correlation of Research are separate and distinct.

"Your Committee therefore recommends: (1) That these two committees be continued, (2) that the membership of the Committee on Experiment Station Organization and Policy be enlarged to include six experiment station directors and the Chief of the Office of Experiment Stations, ex officio; that the terms of office of the station director members be three years with two members retiring each year, (3) that the Section of Experiment Station work be invited by the President of the Association each year to submit nominations for membership on the Committee on Experiment Station Organization and Policy, (4) that the Committee on Experiment Station Organization and Policy, among its regular functions, be charged specifically with the responsibility of representing the Experiment Stations in advising with the Secretary of Agriculture and other officials of the United States Department of Agriculture in matters pertaining to the administration of the research features of the Bankhead-Jones Act, (5) that the Committee on Experiment Station Organization and Policy be urged to meet as frequently as conditions, in its opinion, justify."

Upon motion, the report of the committee was approved. (Proceedings, 1935, p. 196)

50th Annual Convention, November, 1936.

Two meetings held during year--May 4 and 5 at Chicago with representatives of Soil Conservation Service. Approved with revisions, memorandum of understanding prepared by Soil Conservation Service and referred back to Soil Conservation Service for proposal to directors.
Consideration given to completing National soil survey.
November 14 meeting in Houston gave further attention to soil survey and adopted 7 recommendations as to organization and expansion, cooperation, National Advisory Committee, funds, etc.
Recommended commemoration 75th anniversary of Hatch Act.
Recommended amendment of Senate Bill 4723. To authorize cooperation in the development of farm forestry in the states and territories and for other purposes, as per copy submitted.

51st Annual Convention, November, 1937.

Consideration given to relationships of Department of Agriculture and State agencies in research under Cooperative Farm Forestry Act.
Recommended research under Act be carried forward under written memoranda of understanding between State experiment stations and proper representatives of Department of Agriculture.

52nd Annual Convention, November, 1938.

The committee had no formal report to present.

53rd Annual Convention, November, 1939.

(Proceedings not yet published.)

RESUME OF MATTERS DEALT WITH IN REPORTS OF JOINT COMMITTEE ON PROJECTS AND CORRELATION OF RESEARCH, FROM ITS ORGANIZATION IN 1914 TO 1940.

28th Annual Convention of the Association of Land-Grant Colleges, November, 1914.
Committee appointed. Function and purpose outlined.
Recommendation made regarding cooperation between the States and U.S.D.A. on research carried on within the States.

29th Annual Convention, August, 1915.
No report made.

30th Annual Convention, November, 1916.
Survey not completed of existing research projects in the State stations and the Federal Department.

31st Annual Convention, November, 1917.
No report made.

32nd Annual Convention, January, 1919.
No report made.

33rd Annual Convention, November, 1919.
Great progress made in correlation of extension projects as result of Memorandum of Understanding, submitted to the colleges in June 1914, by the Secretary of Agriculture. Urgently requested that this Memorandum be the basis for all cooperative extension work of whatever nature.
Desirable to formulate definite plans for development of more uniform cooperative agreements in respect to research projects.
Replies to questionnaire sent to stations and bureau chiefs indicate a notable improvement in the quality of research work.
Material increase in the cooperation of departments within a station--due in part to the planning of Adams fund projects. Further increase is desirable.
Cooperative relations of the Federal Department and the State stations.
Improvements suggested to bring about a better understanding:
1. Subject-matter.
2. Personnel
3. Administration.

Executive Committee authorized to confer with the Secretary of Agriculture with a view of providing for the organization of an Agricultural Research Council, the function of which should be to help establish the fullest correlation and cooperation among the several institutions.

34th Annual Convention, October, 1920.
In accordance with instructions from Executive Committee, a statement was presented defining cooperation in research, and recommendations made regarding appointment of an Agricultural Research Council, and Under Secretary of Agriculture, and regarding publication of the program of work of the experiment stations and U.S.D.A., and urged regional or group conferences to promote cooperation in research.

35th Annual Convention, November, 1921.
No report made.

36th Annual Convention, November, 1922.
Desirable that the Association should again express itself as definitely in favor of a still closer correlation of research between the respective States and the Federal Government.

37th Annual Convention, November, 1923.
Presented report of investigation regarding cooperative relations between the U.S.D.A. and the colleges of agriculture, and recommended that the Executive Committee be asked to confer with the Secretary of Agriculture with a view to formulating a general memorandum of understanding which would carry into effect the general policy of efficient cooperative relations regarding agricultural research.

38th Annual Convention, November, 1924.
No report made.

39th Annual Convention, November, 1925.
Reports on the importance and significance of the developments in agricultural research during the past year (Purnell Act). Plans made for the investigation of national problems. Real progress made in the coordination and correlation of research projects. Recommended that special subject-matter committees be continued and recommendations made as to functions of the special committees.

40th Annual Convention, November, 1926.
Reviews the activities of the various national research committees.
Reports that 195 projects under Purnell fund active. Desirable that a more complete list be secured of projects relating to national problems, irrespective of the fund from which supported.

41st Annual Convention, November, 1927.
Committee in existence almost 15 years -- history of its development and some of the results reviewed.
630 cooperative research projects active, involving all but one station and 10 bureaus of the Department.
21 regional cooperative studies in operation.
Further correlation of research in the Department and the experiment stations would be promoted by a better knowledge of the Department's projects. Desirable that Department publish its research programs for distribution.

42nd Annual Convention, November, 1928.
Successful cooperation now an established fact.
Over 900 active research projects carried on in cooperation between stations and Department.
Active interest and support of administrative officers essential in the promotion of a larger measure of cooperation and coordination.

43rd Annual Convention, November, 1929.
While the practice of cooperation or correlation has made steady growth, formal cooperation on the national projects has not made notable headway in most lines - due partly to a lack of organization or of definite affiliation of individual workers with a constituted group.
Discussion of new project, Rural Family Living: Content, Adequacy, and Conditioning Factors.

Chief of the Office of Experiment Stations made Assistant Director of Scientific Work, the Office of Experiment Stations thus being made a part of the office of the Director of Scientific Work, with direct relations to the research work of all the bureaus of the Department as well as of the experiment stations.

44th Annual Convention, November, 1930.
In view of the remarkable progress made in agricultural research in the 5 years since the passage of the Purnell Act, the Committee raises the questions whether the original purposes of the 6 "National Cooperative Projects" selected at St. Louis have not been largely accomplished, and whether these projects should not be discontinued, and major coordinate fields of regional or national cooperative effort defined so as to serve better the national needs, present and prospective.

45th Annual Convention, November, 1931.
The total number of cooperative projects under way between Federal bureaus and State stations was 999, or 197 less than the former record of 1,196 reported in 1929-30. This decline not attributed to a waning interest in collective effort, but rather to improved relationships and to revisions in programs through which many projects have been consolidated into larger undertakings of broader significance. An outstanding example was the formulation of an extensive cooperative agricultural research program, designed for the study of interrelated farm and home economics, educational and rural life problems of the Southern Appalachian Highlands.
Recommendation made that special committees appointed in St. Louis in 1925 be discontinued.

46th Annual Convention, November, 1932.
Recommendation made that steps be taken by the Executive Committee for the formulation of a national, cooperative land-use research and planning project for consideration by the individual stations, with joint financial participation by the State experiment stations to the extent of $100 per annum payable from State, local, or Federal funds; that these funds be paid to the Executive Committee to be expended by that body in developing and promoting a national program of land-use research and planning, of which State programs will form essential parts.

47th Annual Convention, November, 1933.
Notwithstanding the obstacles which have confronted the research agencies during the year, they have made a remarkable record of performance.
Question asked, What effect have curtailments of State and Federal research funds had upon Federal-State cooperation in research? Answer indicated in part by the reduction in the number of cooperative undertakings.

48th Annual Convention, November, 1934.
Research programs of the stations expanded considerably to take care of emergency demands, especially through cooperation in Federal Civil Works Administration projects.
Large number of station staff members undertook special assignments in connection with emergency cooperative programs. These included: Presidency of Federal Land Banks, chairmanship of State planning boards, regional, State, or local leadership of National Recovery activities, and participation in various ways in a great many research studies of emergency character.
Recommendation made that the Association appoint the Committee on Land Problems authorized at the 1933 session.

49th Annual Convention, November, 1935.

The 48 State stations and extension services cooperated with the Department in a Nation-wide Study of Adjustments in Farming by Regions and Type-of-Farming Areas, from the Standpoint of Agricultural Adjustment and Planning. Passage of the Bankhead-Jones Act affords new opportunity to strengthen and make more effective the Federal-State cooperation and to bring the States into closer relationship and cooperation on problems common to agricultural regions.

Recommendations made relative to establishment of regional laboratories authorized under the Bankhead-Jones Act.

Committee recommends that the Experiment Station Section and the Executive Body encourage worth while cooperative efforts by official recognition and support of meritorious conferences of research workers in furtherance of a coordinated program.

50th Annual Convention, November, 1936.

Report made on the notable improvement in the development of effective cooperation on the part of both Federal and State personnel; in the development of procedures and plans for the correlation and coordination of research; on the increased volume of cooperative research, in connection with certain new Federal activities, such as the Agricultural Adjustment Administration, the Tennessee Valley Authority, the Soil Conservation Service, and the National Resources Board; and to the great impetus to the cooperative movement resulting from the establishment of regional laboratories under the provisions of the Bankhead-Jones Act.

51st Annual Convention, November, 1937.

Dean F. B. Mumford, of Missouri, who had served continuously as chairman of the Committee for 24 years, gave a brief review of the work and accomplishments of the Committee from the time of its organization.

52nd Annual Convention, November, 1938.

Need indicated for summary publications which would assemble, organize and evaluate the available information on important agricultural problems. Preparation and issuing of such publications should head up in the Office of Experiment Stations. To be of outstanding value to research workers in agriculture, these publications should approach completeness and should be prepared by persons who are recognized as authorities capable of critically evaluating the literature on the problems selected for review.

Committee recommends:

1. That the OES in the USDA be asked to establish a service which shall be responsible for the preparation and publication of monographs as needed which shall summarize, organize, and evaluate existing literature on important agricultural problems.
2. That a national committee of 5 be appointed to determine the timely problems on which monographs should be prepared and to advise with the OES in making plans for preparing and publishing the same. -- 2 members from the USDA, 2 from the State Experiment Stations, and 1 from agencies outside the Land-Grant Association.

Substantial progress made in expanding and strengthening cooperative-coordinated attack in research by the Department and the State experiment stations.

ITEM 18 - ON ESCOP'S AGENDA - OCTOBER 24-30, 1942

ATTACHMENT M

No. 18. Relationships and functions of Committee on Experiment Station Organization and Policy and the Committee on Projects and Correlation of Research.

The question of the functions of the two committees was discussed by our committee at length at the November 8, 1940 meeting; and again in April 9, 1941. In view of Chairman Doten's comment before the Experiment Station Section that there was sufficient clarity and differentiation the attempt to secure clarification was dropped. At the fall meeting 1941 the topic was reopened by the new chairman, Director Clark of Wisconsin. The exchange of letters between Director Clark and myself is presented herewith. In the opinion of your chairman we should meet with the Committee on Projects and Correlation of Research, and jointly define the functions of the two committees, and perhaps also indicate the areas in which the two committees should cooperate.

Dear Director Clark: September 3, 1942

It was agreed (at Peoria, I believe) that I would attempt to get together some material which would help us to define the legitimate fields of activity of the two committees of the Land Grant Association having to do with experiment station problems, namely the committee on Projects and Correlation of Research, and the committee on Experiment Station Organization and Policy.

I am still much puzzled. In the past each committee has taken up any problem which it desired. I have gone over the reports, the topics considered, and statements as to objectives. In general there has been little conflict in the subjects discussed by the two committees. But there should be a clear line of demarcation as to functions.

The following attempt to differentiate is rather crude; don't hesitate to reallocate and add to functions.

There is one problem particularly puzzling to me. Our committee on Organization and Policy has three or more subcommittees which function to some extent at least in areas which properly belong to your committee. For example, we have four appointed women and the ex-officio who serve as members of our committee in consideration of all problems relating to Home Economics. They have been particularly active in sponsoring cooperation in research in foods and nutrition. You have no such subcommittee. Home Economics has sufficient autonomy that it must be represented and allowed to function. You have no corresponding home economic representation on your committee. How shall this be handled? Should we ask the Home Economics Subcommittee to report certain types of items to your committee and function with your committee as it does

with ours? I am entirely sure it is unwise to interfere with the good work
4 the Home Economics group has been doing. Would you be willing to work with this group on correlation of research as we do? The committee on Organization and Policy in Extension has several members representing home economics; the women are even more active in this committee than in ours. How do you wish this matter determined? Should we have a joint meeting of the two committees finally to agree upon and allocate fields?

Here is a first attempt at allocation of functions:

A. Functions of the Committee on Experiment Station Organization and Policy.

1. Study of internal organization of the agricultural experiment stations, and formulation of suggestions as to improvement. This has constituted a relatively small part of the work of the committee in recent years.

2. Study of policies affecting the agricultural experiment stations.

3. Review and consideration of all current federal legislative proposals bearing upon agricultural and home economics research.

4. Preparation of proposals for federal legislation affecting the stations.

5. Cooperation with the committee on Agricultural Extension Organization and Policy on all matters of interest to both research and extension.

6. Attendance at hearings before Congressional committees on budget matters relating to agricultural and home economics research and on proposed legislation (upon authorization of the Executive Committee).

7. Conferring with Budget Bureau with reference to policies relating to agricultural and home economics research (special authorization by Executive Committee).

8. Development of general or "over-all" memoranda of understanding between Stations and U. S. Department of Agriculture relating to policies.

9. Development of policies and relationships between stations and regional laboratories.

10. Development of recommendation concerning publications, franking privileges, etc.

11. Development of functioning regional associations of directors.

B. Functions of the Committee on Projects and Correlation of Research.

1. Preparation and modification of project forms satisfactory both to the Stations and to the Office of Experiment Stations.

2. Preparation of forms for reports required of Stations by relationships with U. S. Department of Agriculture.

3. Development of techniques for inducing desirable cooperation among Stations and with the U. S. Department of Agriculture.

4. Supervision of cooperative projects undertaken on a national scale.

5. Project accounting, financial and functional.

I recognize the inadequacies of the analysis. But it is a start. Will you send me your criticisms? We should get the problems in shape for discussion and settlement early in our meeting in Chicago.

Sincerely yours,

R. E. Buchanan
Director

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My dear Director Buchanan: September 11, 1942

Your letter of September 3 outlines your suggestions for the division of functions between the committee on Experiment Station Organization and Policy and the joint committee on Projects and Correlation of Research, and you ask for my criticisms.

As I have told you previously, I question if there is any worthwhile purpose in continuing the joint committee on Projects and Correlation of Research if the committee on Experiment Station Organization and Policy is to function in the future as it has in the recent past, for vitually every type of activity in which the joint committee on Projects and Correlation of Research might engage has been undertaken by your committee. Perhaps it is better to concentrate all the responsibility and authority in one committee, and I am prepared to discuss such an arrangement with you and the members of my committee if you believe such a policy desirable.

On the other hand, if you believe there is work enough for two committees, and that the joint committee on Projects and Correlation of Research should be continued, I submit the following as the natural functions to be undertaken by this joint committee.

1. All activities concerned with the subject matter of research, as in contrast with those dealing solely with administrative policy.

For example, the present nation-wide study of the Vitamin A content of butter would be entirely under the supervision of the joint committee. In this connection it would seem to me likely that the joint committee might have occasion to deal frequently with subject matter specialists in the various stations and in the U.S.D.A., while your committee would rarely have such responsibility.

2. The joint committee on Projects and Correlation of Research, as its name implies, would have direct responsibility and authority in formulating and supervising all activities between the several stations, and between individual stations and the U.S.D.A., concerned with the planning and correlation of specific research projects.

For example, your committee on Experiment Station Organization and Policy would continue to represent the stations in matters dealing with appropriations from the U.S.D.A. to the stations, and the general administrative policies of the U.S.D.A. as they affect the state stations, but the joint committee on Projects and Correlation of Research would be responsible for all matters related to the actual planning and conduct of specific research projects which involve participation on the part of more than a single research agency.

3. You have referred to the need of having Home Economics personnel represented on the joint committee on Projects and Correlation of Research. I agree with you. It is noted that no women are on your committee, but that there are women on the committee on Extension Organization and Policy. It is recognized that there is a sub-committee on Home Economics under your committee. It would seem to me possible to have this sub-committee report to the joint committee on Projects and Correlation of Research all matters dealing with research in home economics that correspond to the agricultural research responsibilities of the joint committee. Another procedure would be to invite the executive body to name one or more home economists directly to the joint committee and leave the present sub-committee on home economics responsible solely to your committee, and as regards only those matters not directly related to the planning and conduct of research. What is your preference?

Inevitably there will be matters which do not fall clearly within the general classifications we might set up in advance as regards the tasks of the two committees of which you and I happen to be members at present. I would expect that there would be need for frequent consultation between the chairmen of the two committees, and for active cooperation and correlation in the work of the two committees. I am sure we can count on such joint effort if there is an understanding as to the general role which each committee is expected to play, and a desire to share in the tasks to be done.

I am taking the liberty to have copies of your letter of September 3, and of this letter, sent to the other members of my committee, so that they may have the opportunity to make suggestions, and to share in working out policies that may be most effective.

Sincerely yours,

Nobel Clark
Associate Director
Wisconsin Experiment Station

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My dear Dr. Clark: September 19, 1942

As I told you I fully believe that there is a real place for both the committee on Projects and Correlation of Research and a committee on Experiment Station Organization and Policy. One of the reasons apparently why there has been some assumption of authority on the part of the Committee on Experiment Station Organization and Policy has been the fact that the Executive Committee of the Association has referred practically all matters relating to experiment stations to this committee. We should see that this tendency is corrected.

You state, "virtually every type of activity in which the joint committee on Projects and Correlation of Research might engage has been undertaken by your committee."

Enclosed is a docket of topics which have been considered by the Committee on Experiment Station Organization and Policy. Will you be good enough to check this list as well as you can from the topics given and indicate those which you feel should have been handled by your committee? It is not improbable that some aspects of the subjects under number thirteen and number sixteen might be of some interest to your committee. They were, however, not concerned with the specific subject matter of research but methods of developing suitable interrelationships between state and national agencies. Number eighteen, of course, relates directly to your committee. This topic was discussed at the Chicago meeting of November 8, 1940. I am enclosing a transcript of the material which we had under consideration. You will note there is, first, a statement of the material available for consideration, next, a copy of a letter of transmittal from Mr. Fromme of the Office of Experiment Stations. You will note in his letter the statement that the request for help had been formulated at a preceding meeting of the Committee on Experiment Station Organization and Policy. We were seriously desirous of securing a better

definition of functions. I had talked to Director Doten but was unable to get any clear idea as to what he considered the differentiation of functions to be. This is followed by a resume of all of the matters which are dealt with in the report of the Committee on Organization and Policy from the time of organization from 1905 to date; also, the matters dealt with in joint reports on Projects and Correlation of Research. As a result of our discussion the committee on Experiment Station Organization and Policy approved the following statement to be submitted for consideration by the Agricultural Experiment Station Subsection with the expectation that it would be approved and referred to the Executive Committee. The statement is as follows:

"Notwithstanding all attempts to differentiate the functions of the two committees on the basis of the records reviewed it is apparent:

1. That each committee has at one time or another taken up and reported upon topics that at another time were considered by the other committee.

2. That there is at present no clear cut differentiation of functions between the two committees.

3. That at present so far as the Committee on Experiment Station Organization and Policy is aware the topics actually under consideration are distinct.

4. That an examination of the docket seems to indicate clearly that there is more than enough work for both committees.

It is therefore suggested that the Executive Committee define the functions and scope of each committee so that the work may be properly divided."

This was presented to the Experiment Station Subsection. Mr. Doten, as chairman of your committee, raised objection to its consideration and stated rather emphatically that there were no conflicts as to topics considered and that the provinces of the two committees had been adequately defined. As a result of this statement we withdrew our request and let the matter drop. I have discussed the problem, although not at length, with Secretary Cooper. It is evident, I believe, that there has been no desire on the part of our committee to encroach upon the province of the committee on Projects and Correlation of Research. Returning to the agenda it is possible that our discussions relative to biology abstracts under number twenty-six might have been routed to your committee. Probably number thirty relative to cooperation in bee research might have been handled by your committee. Will you look over the remaining items and check any that should come under the supervision of your committees.

You make suggestions as to the definite fields that should be handled by your committee. I would be personally in complete agreement although the line of demarkation is not in my opinion entirely clear. We are confronted

with this type of problem. In the specific field of soil survey we have had a subcommittee on soil and soil survey work for a number of years. As a result of the activity of this subsection our committee on Experiment Station Organization and Policy recommended certain action to be taken relative to the appointment of a joint committee to recommend better coordination in Washington and better state-federal relationships. I honestly believe that the problems under consideration are primarily problems of policy but one cannot help but remember that there is implicit preparation in some correlation of research among the states. In some of these fields it seems to me quite necessary that the two committees work very closely together. Your second point it would seem to me is very specific and satisfactory. It is quite possible that here again interstate problems relative to policy matters will develop out of specific research projects.

As indicated above it is possible that the activities of some of our various subcommittees including Home Economics might have some relationship to your committee. For the present it would seem that you should be apprised of anything of which they are studying and that any suitable recommendations of suggestions be routed to your committee. Out of such procedure might well grow such new interrelationships or reorganizations as would be found advisable. Your suggestion concerning the subcommittee on Home Economics is a case in point.

The members of the subcommittee on Home Economics presumably have the same relationship to the committee on Experiment Station Organization and Policy as do the women members of the Extension Committee on Organization and Policy. We agreed, however, within our committee that we function best by asking the subcommittee on Home Economics to consider all home economics problems and to sit as voting members of our General Committee in the final consideration and disposal of such problems. At the first session of our committee our members, including the Home Economics women meet together to go over the agenda and arrange our schedule of meetings so that any topic of special interest to the Home Economics contingent would be handled when they are present. The Home Economics Subsection, however, meets for the most part separately from the General Committee.

In conclusion may I say that I like the tone of your letter very much. We are now doing the thing which our committee was very anxious should be done several years ago.

Sincerely yours,

R. E. Buchanan
Director

Enclosures

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My dear Director Buchanan: September 26, 1942

Your letter of September 19, together with enclosures, supplied much significant background material related to the responsibilities and past activities of the two Land-Grant College committees of which we are members, respectively. I appreciate your courtesy in making this material available to me, for I had seen none of it previously.

It would seem that there is no easy way to define sharply the duties of each committee, particularly as regards those matters which involve policy, (and hence are naturally the responsibility of the Committee on Experiment Station Organization and Policy) and that also deal with the subject matter and administration of particular research projects, (and therefore come within the province of the Joint Committee on Projects and Correlation of Research.) Certainly it is not possible to draw up definitions in advance that will neatly classify each new item that will call for attention in the years ahead. In many instances it will inevitably be necessary for the chairmen or the membership of the two committees to meet the new situations as they arise, and make their decisions on the basis of the special factors involved in each situation.

Complying with your request, I have scanned the list you sent of the topics considered recently by the Committee on Experiment Station Organization and Policy. Naturally, it is hard to evaluate these simply on a basis of their titles. Certainly your committee had some direct responsibility for at least part of the work associated with all of these items, but I would surmise that the Committee on Projects and Correlation of Research might also have been able to make a contribution as regards items 8, 13, 15, 16, 25, 30, 41, 47 and 50, although I do not want to be construed as making this as a claim or request.

As I said in my last letter, I have no objection to having one committee do all the work now assigned to our two committees. If, on the other hand, there is need for both committees, as you have emphasized, I would think that the Joint Committee on Projects and Correlation of Research should have referred to it all matters which involve any considerable amount of the subject matter of research, the immediate administration and coordination of research, and the broad objective of promoting cooperation in research among stations, and between stations and the U.S.D.A.

Sincerely yours,

Noble Clark
Associate Director
Experiment Station

CC: Director P. S. Burgess
Director C. A. Mooers
Dr. C. E. Reed
Dr. H. R. Tolley
Dr. J. T. Jardine

ATTACHMENT N

Establishment of Agricultural Research Administration

UNITED STATES DEPARTMENT OF AGRICULTURE
Office of the Secretary

Washington, D. C.

December 13, 1941

MEMORANDUM NO. 960

Organization of Department for War Effort

Part III - Agricultural Research Administrator

11. The Bureau of Animal Industry, the Bureau of Dairy Industry, the Bureau of Plant Industry, the Bureau of Agricultural Chemistry and Engineering, the Bureau of Entomology and Plant Quarantine, the Bureau of Home Economics, the Office of Experiment Stations, and the Beltsville Research Center are hereby placed under the direction and supervision of an Agricultural Research Administrator. The Administrator, or, in his absence or inability to act, an Assistant Administrator, shall, as personal representative of and under the general direction and supervision of the Secretary, be responsible for the activities carried out by these agencies.

12. In the exercise of the authority vested in him by paragraph 11 of this memorandum, and in accordance with the applicable laws and regulations, the Administrator, or the Acting Administrator, shall, among other things, with respect to the agencies placed under his direction,

a. direct and supervise their activities;

b. direct and supervise the work of their officers and employees;

c. delegate, in his discretion, his authority to their officers and employees;

d. utilize their personnel, funds, property, and services; and

e. consolidate or integrate their administrative, technical, staff, and other services.

13. Mr. E. C. Auchter is hereby detailed from his post as Chief of the Bureau of Plant Industry and designated as the Agricultural Research Administrator.

Claude R. Wickard

Secretary

ATTACHMENT O

Bibliography of Directors' Policy Recommendations and Papers Pertaining to Publications of the Agricultural Experiment Stations

A. "The Creation of a Bureau of Information and Exchanges in the Department of Agriculture." Proceedings of a Convention of Delegates from Agricultural Colleges and Experiment Stations held at the Department of Agriculture, Washington, D. C., July 8-9, 1885. USDA Miscellaneous Special Report No. 9, pp. 90-93.

B. The Preparation of Experiment Station Reports for Popular Use, ibid, pp. 93-97.

C. Proceedings of the Association of American Agricultural Colleges and Experiment Stations.

(1) Quarterly or More Frequent Bulletins on the Results of Experiments at Agricultural Experiment Stations, Recommendation 4, 1st Annual Convention, Washington, D. C., Oct. 18-20, 1887.

(2) Classes of Agricultural Experiment Station Publications--bulletins, special scientific reports, and annual reports. Character of, how to distribute, persons to whom they may be sent, to be supplied to all station workers, usefullness to farmers, when they should be issued. 2d Annual Convention, Knoxville, Tenn., Jan. 1-3, 1889. USDA Miscellaneous Bulletin No. 1, pp. 31-33, 35, 39, 41-43, 52, 65-67, 117, 118.

(3) Recommendations of a Conference of Experiment Station Workers Concerning Size, Form, Contents, and Printing of Station Bulletins and Their Distribution. 3d Annual Convention, Nov. 12-15, 1889, Washington, D. C., USDA Miscellaneous Bulletin No. 3, pp. 104, 105.

(4) What is the Mission of the Bulletin? 8th Annual Convention Washington, D. C., Nov. 13-15, 1894, USDA Bulletin No. 24, p. 69.

(5) A Plan for Indexing Agricultural Literature. Resolution on Depositing Government Publications at Land-Grant Colleges. 11th Annual Convention, Minneapolis, Minn., July 13-15, 1897. USDA Bulletin No. 49, pp. 18, 38.

(6) Indexing Agricultural Literature--Suggested Classification of Agriculture. 12th Annual Convention, Washington, D. C., Nov. 15-17, 1898. USDA Bulletin No. 65, pp. 46, 50-54.

(7) Report of Committee on Indexing Agricultural Literature. 13th Annual Convention, San Francisco, Calif., July 5-7, 1899. USDA Bulletin No. 76, p. 18.

(8) Resolution Regarding Publication of A Second Edition of the Account of Agricultural Experiment Stations in the United States Prepared for the Paris Exposition.

Report of Committee on Indexing Agricultural Literature.

14th Annual Convention, New Haven, Conn., Nov. 13-15, 1900. USDA Bulletin No. 99, pp. 28, 73.

(9) Report of Committee on Indexing Agricultural Literature. 15th Annual Convention, Washington, D. C., Nov. 12-14, 1901. USDA Bulletin No. 115, p. 25.

(10) The Editing of Experiment Station Publications (by L. H. Bailey, New York). Bulletin Illustration (by F. A..Waugh, of Massachusetts) 18th Annual Convention, Atlanta, Ga., Oct. 7-9, 1902. USDA Bulletin No. 123, pp. 112-114.

(11) Report of Committee on Indexing Agricultural Literature. 17th Annual Convention, Washington, D. C., Nov. 17-19, 1903. USDA Bulletin No. 142, p. 30.

(12) Report of Committee on Indexing Agricultural Literature. 18th Annual Convention, Des Moines, Iowa, Nov. 1-3, 1904. USDA Bulletin No. 153, p. 32.

(13) Report of ESCOP (dealing entirely with Experiment Station Bulletins and Distribution of Experiment Station Literature. 21st Annual Convention, Lansing, Mich., May 28-30, 1907. USDA Bulletin 196, pp. 38-40.

(14) Report of Committee on Station Organization and Policy: Means of Disseminating Information on Station Work; Station Publications; Research Journal for Experiment Stations. 23d Annual Convention, Portland, Oreg., Aug. 18-20, 1909. USDA Bulletin No. 228, pp. 47-48.

(15) Recommendation by ESCOP that funds be obtained by USDA from Congress for printing a Journal of Agricultural Research, reporting results of scientific investigations at the agricultural experiment stations.

Records and Reports, Including Publications.

24th Annual Convention, Washington, D. C. Nov. 16-18, 1910; Proceedings, Montpelier, Vt., Capital City Press, Printers (1911) pp. 115-117.

(16) The Sale of Station Publications (Section from ESCOP report). 25th Annual Convention, Columbus, Ohio. Nov. 15-17, 1911. Proceedings, Capital City Press, Printers, Montpelier, Vt., p. 109.

(17) The Development of the College and Station News Service (by President R. L. Slagle, South Dakota State College). E. W. Allen, Office of Experiment Stations)

Popular Editions of Station Bulletins (by F. H. Hall, N. Y. Agricultural Experiment Station, Geneva, N. Y.)

The Station Mailing List (by Director A. F. Woods, Minnesota)

16th Annual Convention, Atlanta, Ga., Nov. 13-15, 1912. Proceedings, Free Press Printing Company, Burlington, Vt., pp. 150-203.

(18) Report of the Bibliographer
(14 pages listing publications including agricultural college bulletins prepared by the USDA Library and Office of Experiment Stations)

Station Mailing Lists
(A section of ESCOP's report relative to guarding against misuse for private purposes of experiment station mailing lists).

27th Annual Convention, Washington, D. C. Nov. 12-14; Proceedings, Capital City Press, Montpelier, Vt., 1914, pp. 26-40, 111.

(19) Report of the Bibliographer
(In the form of a paper defining the range of Extension publications and grouping them as (a) communications proceeding directly from the College to the reader and those (b) seeking a wider range of readers through the medium of the agricultural press or through publications of cooperating institutions).

Publication of Results of Research
(A section of ESCOP report emphasizing that scientific findings growing out of station research are not private property of scientists and need to be published for benefit of agriculture and public).

Journal of Agricultural Research
(A section of ESCOP report stating that with Oct. 1914 this publication became a cooperative enterprise and will include experiment station contributions).

28th Annual Convention, Washington, D. C., Nov. 11-13, 1914. Proceedings, Capital City Press, Montpelier, Vt., 1915, pp. 24-27, 105.

(20) Papers on Publications Presented Before the Section on Experiment Station Work, Aug. 11, 1915.

(With passage of the Smith-Lever Act of 1914, including the publication of extension bulletins, also with the previous year's decision that findings of experiment station research be included in the Journal of Agricultural Research, the Association recognized that the experiment station publication responsibilities had changed from what they were previously when there was no associated agricultural extension service on the land-grant college campuses. This changed situation was the reason the 1915 sectional meeting devoted its entire program to the following papers and discussions in which many deans of agriculture and directors of experiment stations took part.)

The Annual Report
(By Dean and Director R. H. Forbes, University of Arizona)

Bulletins
(By H. G. Knight, Director, Wyoming Experiment Station, ready by President Duniway of the University of Wyoming.)

The Publication of the Results of Investigations Made in Experiment Stations in Technical Scientific Journals, Including the Journal of Agricultural Research.
(By Raymond Pearl, Head, Department of Biology, Maine Experiment Station. The paper was read by Director C. D. Woods of the Maine station.)

Following reading of the papers and discussion, the section approved the following resolution:

"Resolved that the Committee on Station Organization and Policy be asked to consider the advisability of recommending to this Association some definite policy touching station publications that may tend to bring about greater uniformity."

29th Annual Convention, Berkeley, Calif., Aug. 11-13, 1915. Proceedings, Capital City Press, Montpelier, Vt., 1915, pp. 179-199.

(21) Published Sources of Information About Farm Women
(Report of the Bibliographer)

Shaping Results of Research for Extension Uses
(Including bulletins, graphs, etc. This was given in the form of a paper by Director of Extension R. L. Watts, Pennsylvania and followed by several pages of discussion including that

popular as well as technical experiment station bulletins need be continued to avoid dangers in "cutting off investigators entirely from contact with the farming public.")

30th Annual Convention, Washington, D. C. Nov. 15-17, 1915. Proceedings, Free Press Printing Company, Burlington, Vt., 1917, pp. 90-108, 264,273.

(22) Agricultural Literature and the War
(Report of the Bibliographer)

Publishing the Work of the Experiment Stations
(ESCOP devoted its entire deliberation at this conference to the matter of experiment station publications. The Proceedings contain 6 1/2 printed pages.)

Report of Joint Committee on Publication of Research
(Outlining purpose of committee)

31st Annual Convention, Washington, D. C., Nov. 14-16, 1917. Proceedings, Free Press Printing Company, Burlington, Vt., 1918, pp. 26-28, 37-43, 158-159.

(23) Impressions of Agricultural and Scientific Serial Literature in the More Important Countries of Europe During the War
(Report of the Bibliographer)

Journal of Agricultural Research Changed from Weekly to Monthly
(Report of the Joint Committee on Publication of Research)

Publication of Research
(Discussion of reduction in USDA printing funds from $650,000 to $600,000 and therewith curtailment of Journal of Agricultural Research)

33d Annual Convention, Chicago, Ill., Nov. 12-14, 1919. Proceedings, Free Press Printing Co., Burlington, Vt., 1920, pp. 56, 138, 247-248.

Association of Land-Grant Colleges

(During the 33d Convention, the Constitution was amended including among organizational changes the change of name of the organization to Association of Land-Grant Colleges.)

(24) The Adequacy and Inadequacy of Existing Facilities for the Publication of Agricultural Research Data
(Report of Joint Committee on Publication of Research)

Distributing the Results of Experiment Station Work
(Report of ESCOP)

34th Annual Convention, New Orleans, La., Oct. 19-22, 1920. Proceedings, Free Press Printing Co., 1921, pp. 118-122, 123-125.

(25) Report of the Committee on Publication of Research
35th Annual Convention, New Orleans, La., Nov. 8-10, 1921. Proceedings, Free Press Printing Co., Burlington, Vt., 1922. pp. 184, 185.

(26) Suspension and Resumption of Printing Journal of Agricultural Research

(Report of the Committee on Publication of Research stating that printing the Journal of Agricultural Research had been suspended in December 1921 due to curtailment of USDA printing funds. Through presentation of the seriousness of the matter to members of Congress by the Secretary of Agriculture. Congress finally passed Senate Joint Resolution 132. Funds were thus made available to resume printing of JAR on Jan. 6, 1923.)

36th Annual Convention, Washington, D. C., Nov. 21-23, 1922; Proceedings, Free Press Printing Co., Burlington, Vt., 1922, pp. 161-165.

(27) The Development of an Informational Service for Experiment Stations

(By A. W. Hopkins, Head, Department of Agricultural Journalism, University of Wisconsin, and Director B. F. Linfield, Agricultural Experiment Station, Montana State College, before Section of Agriculture.)

Report of Committee on Publication of Research

37th Annual Convention, Chicago, Ill., Nov. 13-15, 1923. Proceedings, Free Press Printing Company, Burlington, Vt., 1924, pp. 205-215; 230-236.

(28) Report of Committee on Publication of Research

38th Annual Convention, Washington, D. C., Nov. 12-14, 1924. Proceedings, Free Press Printing Co., Burlington, Vt., 1925. pp. 229-235.

(29) Report of Committee on Publications Research

(The committee suggested "that the time is now opportune for an exhaustive survey of the channels through which research data originating in the experiment stations find their way into print.")

39th Annual Convention, Chicago, Ill., Nov. 17-19, 1925. Proceedings, Free Press Publishing Co., Burlington, Vt., 1926, p. 187.

During the 39th Annual Convention, the Association amended the constitution to change the name of the organization to: "Association of land-Grant Colleges and Universities."

(30) Report of the Committee on Publication of Research

Publications and News Service
(Section of a paper by Dean and Director H. W. Mumford, Ill., on "How May Experiment Stations Make and Keep Contacts With Farmers?")

40th Annual Convention, Washington, D. C., Nov. 16-18, 1926. Proceedings, Metcalf Printing Co., Northampton, Mass., 1927, pp. 204, 214, 215.

(31) Report of Committee on Publication of Research

41st Annual Convention, Chicago, Ill., Nov. 15-17, 1927. Proceedings, Free Press Printing Co., Burlington, Vt., pp. 206-208.

(32) Report of the Committee on Publication of Research

42d Annual Convention, Washington, D. C., Nov. 20-22, 1928. Free Press Publishing Co., Burlington, Vt., pp. 209-212.

(33) Experiment Station Publicity*

(By A. W. Hopkins, Head, Department of Agricultural Journalism, University of Wisconsin)

Experiment Station Publicity as Seen by An Extension Worker*

(By Director of Extension C. F. Monroe, N. Dak.)

* Both papers given before the Section of Agriculture, Nov. 13, 1929.

Report of the Committee on Publication of Research

43d Annual Convention, Chicago, Ill., Nov. 12-14, 1929. Free Press Publishing Co., Burlington, Vt., pp. 209-219, 222.

(34) The Policy and Functions of the Journal of Agricultural Research in relation to the Experiment Station
(By Dr. M. C. Merrill before the Section on Agriculture)

Report of the Committee on Publication of Research

44th Annual Convention, Washington, D. C., Nov. 17-19, 1930. Proceedings, Free Press Printing Co., Burlington, Vt., 1931, pp. 213-224.

(35) The Inadequate Distribution of State Agricultural Experiment Station Bulletins to Foreign Countries.

(By J. G. Leach, H. Macy, and C. H. Bailey, University of Minnesota)

Report of the Committee on Publication of Research

45th Annual Convention, Chicago, Ill., Nov. 16-18, 1932. Proceedings, Free Press Printing Co., Burlington, Vt., 1932, pp. 263-264, 266.

(36) Report of Special Committee on Distribution of Experiment Station Publications in Foreign Countries

Distribution of Station Publications
(By Director B. E. Gilbert of Rhode Island)
(Before Section on Agriculture, Subsection on Experiment Station Work)

Report of the Committee on Experiment Station Organization and Policy, 1932.
(Entire report devoted to station publications, their cost, and distribution)

Report of Committee on Publication of Research

46th Annual Convention, Washington, D. C. Nov. 14-16, 1932. Proceedings, Free Press Publishing Co., Burlington, Vt., 1933, pp. 250-255, 269-272, 276-279.

(37) Agricultural College Publications for Farmers
(By Dean John F. Cunningham, Ohio State University, before Section of Agriculture)

The Desirability of Keeping Before the Public the Value of Agricultural Research
(A section of ESCOP's report, recommending that the American Association of Agricultural College Editors be asked to study the problem and make recommendations as to methods that may be developed to acquaint the public more fully with the importance of agricultural research.)

Report of the Committee on Publication of Research

Report of the Special Committee on Distribution of Experiment Station Publications to Foreign Countries

47th Annual Convention, Chicago, Ill., Nov. 13-15, 1933. Proceedings, Free Press Publishing Co., Burlington, Vt., 1934. pp. 118-120, 155-156, 168-171.

(38) Sources of Publication of Research

Sources of Publication of Research in Home Economics at Land-grant Institutions

48th Annual Convention, Washington, D. C., Nov. 19-24, 1934. Proceedings, Cann Brothers, Printers, Wilmington, Del., 1935. pp. 167, 236-238.

(39) Report of the Special Committee on Publication of Research (Reported a survey based on the practices regarding publishing in various scientific journals and includes tables summarizing practices in the various journals, including page costs, reprints, etc.)

Report of Committee on Publication of Research

49th Annual Convention, Washington, D. C., Nov. 19-20, 1935. Proceedings, Cann Brothers, Printers, Wilmington, Del. 1936, pp. 189-195.

(40) Report of Joint Committee on Publication of Research

50th Annual Convention, Houston, Texas, Nov. 16-18, 1936. Proceedings (No printer or publisher given) pp. 324-325.

(41) Report of the Committee on Publication of Research

51st Annual Convention, Washington, D. C., Nov. 14-17, 1937. Proceedings, Quinnipiack Press, Inc., New Haven, Conn., pp. 278-279.

(42) Special Report on Publication of Monographs
Report of Committee on Publication of Research

52d Annual Convention, Chicago, Ill., Nov. 14-16, 1936. Proceedings, Quinnipiack Press, Inc., New Haven, Conn., pp. 176, 292-293.

(43) Report of Join Committee on Publication of Research

53d Annual Convention, Washington, D. C., Nov. 15-17, 1939. Proceedings, Quinnipiack Press, Inc., New Haven, Conn., p. 289.

(44) Publications and Mailing Lists
(Abstract of Results of Survey Made by Director Freed Griffee of the Maine Experiment Station and Reported Before the Sub-section of Experiment Station Work, Section of Agriculture. The paper reports that 51 experiment stations reported 23 different types of publications as indicated by name and description of the publications.)

Report of the Joint Committee on Publication of Research

54th Annual Convention, Chicago, Ill., Nov. 11-13, 1940. Proceedings, Quinnipiack Press, Inc., New Haven, Conn., pp. 142-143, 305-306.

(45) Report of the Joint Committee on Publication of Research

55th Annual Convention, Chicago, Ill., Nov. 10-12, 1941. Proceedings, Quinnipiack Press, Inc., New Haven, Conn., pp. 301-303.

(46) The Value of Different Forms of Agricultural Experiment Station Literature
(Abstract of Paper by Dean and Director E. C. Johnson, Washington State College, before Experiment Station Section)
(Abstract of Papers Acquainting the public. Including Legislators and Congressmen, with Experiment Station work through Farm Organizations, W. G. Taggart., Director Louisiana Experiment Station and L. D. Baver, Director, North Carolina Experiment Station)

Report of Joint Committee on Publications

56th Annual Convention, Chicago, Ill., Oct. 28-30, 1942. Proceedings, Quinnipiack Press, Inc., New Haven, Conn. pp. 121-124, 207-208.

(47) Report of the Joint Committee on the Publication of Research
(No report filed in 1943. Above report covered period Oct. 15, 1944, to Oct. 15, 1945, inclusive.)

59th Annual Convention, Chicago, Ill., Oct. 24-25, 1945. Proceedings (No printer or publisher given) pp. 86-87.

(48) Report of the Committee on Distribution of Publications to Foreign Institutions
(Filed by Associate Director H. Macy of the Minnesota Experiment Station before the Agricultural Experiment Station Subsection)

65th Annual Convention, Houston, Texas, Nov. 13-15, 1951. Proceedings * p. 158.
(Although the Proceedings do not carry an item in the matter, ESCOP at this conference approved the A. J. Sims' recommendations on Annual Reports. The recommendations were made by a committee of four editors, one from each region, following a study made at the request of ESCOP.)

(49) Request for a Committee on Costs of Research Publications.
(The Executive Committee approved a recommendation made by the Division of Agriculture that a committee be named directly responsible to the Executive Committee to study problems involved in payment by research institutions of the cost of publication on the findings of research.

* No printers or publishers appear in the Proceedings from here on.

Committee on Interpretation and Distribution of Research Information
(Reporting a survey on the present policies and practices for disseminating research findings in home economics, including agricultural experiment station periodicals and inclusion therein of home economics research findings)

Exploration Committee for Publication of Articles on Home Economics

67th Annual Convention, Columbus, Ohio, Nov. 10-12, 1953. Proceedings, pp. 136, 190-193.

(50) Dissemination of Home Economics Research
(By Stanley Andrews, Executive Secretary, National Project in Agricultural Communications)

Interpretation and Dissemination of Research
(By Associate Director W. E. Krauss of Ohio, suggesting the need for research in communications that will first interpret the usable scientific results in terms that laymen can understand and then disseminate this information as widely as possible.)

Dissemination of Research from the Editorial Standpoint
(By Jessie Heathman, University of Illinois)

Report of the Senate Special Committee on Financing the Publication of Research

68th Annual Convention, Washington, D. C., Nov. 16-18, 1954. Proceedings, pp. 104-108, 249-251.

(51) Report of Chairman of Committee on Publications
(By Associate Director Noble Clark before the Experiment Station Section)

70th Annual Convention, Washington, D. C., Nov. 12-15, 1956. Proceedings, p. 138.

ATTACHMENT P

Distribution of Experiment Station Publications to Foreign Institutions

On March 28, 1929, Vice Director Andrew Boss of the Minnesota Agricultural Experiment Station appointed a committee consisting of Dr. J. G. Leach, Chairman; Dr. C. H. Bailey; and Dr. H. Macy to study the distribution of Experiment Station publications to foreign institutions. The committee considered all aspects of the problem and began the preparation of the mailing list to include the outstanding institutions of the world interested in agriculture and sciences related thereto. The committee made use of all available sources of information in its attempt to prepare a comprehensive list.

At the November 17, 1931, meeting of the subsection on Experiment Station work of the Section of Agriculture of the Association of Land-Grant Colleges and Universities held at Chicago, Illinois, Director Boss presented a statement embodying the report of this committee of the Minnesota Agricultural Experiment Station (See Proceedings of the 45th Annual Convention of the Association of Land-Grant Colleges and Universities 1931, page 262). This report was presented, also, in Science 75:104-105, 1932, under the authorship of Leach, Macy, and Bailey. At the conclusion of the meeting of the Experiment Station subsection in 1931, a committee consisting of Andrew Boss of Minnesota, S. B. Doten of Nevada, B. E. Gilbert of Rhode Island, and J. T. Jardine of the Office of Experiment Stations was appointed to study the problem of Station literature to foreign countries. This action is reported on Page 269 of the Proceedings of the 45th Annual Convention mentioned above.

At the 46th Annual Convention of the Association of Land-Grant Colleges and Universities, Dr. J. T. Jardine, Chief of the Office of Experiment Stations, made a report of the special committee on the distribution of Experiment Station publications in foreign countries on behalf of the committee. This action is reported in the Proceedings of the 46th Annual Convention on Pages 250-251. A further recommendation concerning this situation was made by the Committee on Experiment Station Organization and Policy on Pages 271-272 of the Proceedings of the meeting held November 14, 1932. The basic point in this report was the suggestion that it would be advisable to develop a list of, not to exceed perhaps seventy-five, agencies to act as central repositories for all station and departmental publications; and, as far as practicable, each Station would furnish copies of its technical publications to such a selected list. It was further suggested that a list of approximately 250 institutions representing the major research institutions in foreign countries be prepared so that individual stations might select from this list such institutions as desired in addition to the central list of about seventy-five. In addition, a secondary list might be prepared to be used by individual stations for selecting its subject-matter mailing list, such as entomology, farm crops, etc., for foreign institutions.

A number of the Experiment Station Directors continued to express dissatisfaction about the distribution of publications to foreign institutions. . . . It was difficult to determine the possibilities for the most satisfactory exchange relationships with those institutions that might have publications that would be useful to the Experiment Station libraries of this country. The experiences of individual members of staff at the Minnesota Station and other stations clearly indicated that there was a question about the library facilities at some of the foreign institutions and the best use of our publications. In many cases, the staff members of foreign institutions were not informed about the availability of the publications, and library facilities were such that there was inadequate

cataloging and shelving. It was clear that many of our Experiment Station publications were collecting dust and unavailable for the foreign scientists.

A number of Experiment Station Directors continued to express dissatisfaction about the distribution of publications to foreign institutions and individually made some inquiries similar to those made by the Minnesota Station; but, in most cases, it was found that pertinent information was quite difficult to obtain. Clearly satisfactory distribution was not being obtained.

The Experiment Station Section of the Association of Land-Grant Colleges and Universities at the 1947 meeting held in Chicago, Illinois, authorized the appointment of a new committee to look into the matter of the distribution of agricultural publications to foreign institutions. This committee consisted of Director Buchanan of Iowa as Chairman, Director Dow of Maine, Director Freeborn of California, and Director Macy of Minnesota. The committee, because of the wide distribution of its membership, had no opportunity to meet during 1948 and were unable to get together until November 1948, at the time of the Land-Grant College Meetings in Washington, D. C. Considerable correspondence was undertaken with the idea of developing a program of activity. The committee reported at the 1948 meeting of the Association and made the following essential recommendations: (1) that the most immediate need on the part of the Stations is an authoritative guide which for each country lists the significant research and educational institutions and libraries with indication of their size and importance and principal research fields of activity. Further, that there should be a check as to the adequacy of the institution from the standpoint of cataloging and preserving material acquired and of making it readily accessible to researchers and students. (2) that the Stations are, also, interested in putting, as far as practicable, the forwarding of publications to foreign institutions on an exchange basis. (3) that the guide should be prepared if practicable as a cooperative venture by the several agencies concerned, certainly including the Stations and the U. S. Department of Agriculture. (4) that there should be the continuation of the use of common facilities through intermediate agencies for handling the mechanics of assembling and distributing the publications.

The committee was continued for 1948-49 under the chairmanship of Director Macy. Director R. D. Lewis of Texas was added to the committee to take the place of Director Buchanan who was retiring.

This new committee with Director Buchanan, J. B. Hepler of the Office of Foreign Agricultural Relations, Miss Louise C. Bercaw from the Library of the U. S. Department of Agriculture, and Mr. E. C. Elting of the Office of Experiment Stations met in Washington on November 10, 1948, to discuss the problem. It was decided at that time to prepare a preliminary list of institutions using currently available sources of information and assembling mailing lists from representative Experiment Stations of the United States.

The various mailing lists were brought together and assembled by Dr. F. V. Rand of the Office of Experiment Stations. The lists are now under consideration by the committee. It was evident that the lists were not satisfactory. There was a conflict in addresses for given institutions, a difference in the name being carried, for what appeared to be the same institution, by different Experiment Stations. Some of the station lists included the names of individuals to whom publications were now being sent. It might be added parenthetically that it is the judgment of the committee that the most satisfactory foreign mailing list would involve libraries rather than individuals if the Experiment Stations

are to insure the most useful purposes, insure economy, and make exchanges easier to arrange.

The committee was unable to meet again during the fiscal year 1948-49. Three of the members were able to meet for a short time at the 1949 sessions of the Land-Grant College Association at Kansas City, Missouri. At that time, the committee considered the list prepared by Dr. Rand and a possible questionnaire that might be used to secure the necessary information concerning the foreign institutions and library facilities, etc. The committee decided to make further inquiries with various international agencies and agencies of the Federal Government, foundations, etc., during the coming year to determine whether or not a procedure could be developed for getting the necessary information upon which an adequate mailing list might be provided that could be used by the various Experiment Stations to set up their foreign mailing list. Contacts were to be made with these groups as soon as possible. Arrangements have been made for the Chairman of the committee to meet with some of them in Washington early in 1950.

Throughout the discussions from 1929 to the present, the Chairman of the present committee has been convinced that if the most useful foreign mailing list and exchange relationships are to be established, a survey should be made of the agricultural institutions of the world. Such a survey should be made by qualified individuals who would gather all of the information necessary to prepare a guide which would include the names of institutions, correct addresses, fields of research or major interests, library facilities, exchange possibilities, etc. Such lists could then be made available to the individual Experiment Stations; and, from the lists, the Stations could decide upon a group to which they could send their publications and establish exchanges. Furthermore, necessary contacts could be made in each country to pick out key institutions that would become repositories of the publications from all of the Experiment Stations of the country and possibly the U. S. Department of Agriculture. This would lead to marked economy and to most helpful service to the foreign institutions. The individuals who made the survey would, also, be able to determine the most satisfactory procedure for annual revisions of the list in light of developments in each country. As pointed out previously, it is extremely difficult to get adequate information by correspondence or even through established professional or international organizations.

It is proposed that funds be made available to provide for the expense of sending possibly four Experiment Station staff members to the institutions of the world to make such a survey. Such staff members, probably, could obtain leaves from their institutions for a period of three to six months. The necessary salaries and travel expenses would be provided from this fund as well as the cost for assembling the material collected in the survey. It might be advisable to deploy these individuals as follows: one to Europe, one to Asia, one to South and Central America, and one to Africa and Oceania. It is believed that such a survey of the library facilities and needs of research and educational institutions of the world for publications of the Experiment Stations of the United States would lead to international goodwill, intellectual cooperation, and a fine service to agricultural research, not to mention the economies that would result from a carefully planned distribution of our publications. It is estimated that such a survey could be made for a cost of approximately $50,000. This would not be too much to pay for a project which would mean so much to the scientists in agricultural research throughout the world and to the agricultural research agencies of this country. The project should be initiated as soon as

possible to meet the insistent demands of our Experiment Stations for adequate information and to render the greatest service to our friends across the sea.

--By Dr. H. Macy
Minnesota Experiment Station
January 10, 1950

ATTACHMENT Q

ASSOCIATION OF LAND-GRANT COLLEGES AND UNIVERSITIES
(From ESCOP Minutes)
Publications Subcommittee
November 15, 1955

It was moved by Mark T. Buchanan and seconded by Clay Lyle that a publications subcommittee of ESCOP be established. This committee would be composed of one Director and one Experiment Stations Editor from each region recommended to ESCOP by the Directors of that region. The committee would either handle itself or recommend to ESCOP needed action in the area of publications matters referred to it or which it in its judgment chooses to consider. Motion passed.

It was suggested in discussion pertaining to the motion that:

1. The committee would use its own judgment in deciding whether to handle a specific matter itself or to recommend action to ESCOP.

2. The committee might invite representatives of USDA, industry or others to meet with it from time to time, or accept invitations from such groups to meet with them.

3. Representatives on the committee would be selected for three-year terms. (First terms would be for one, two, and three years with the particular persons in each category determined in a manner worked out within the committee.)

4. The initial appointments of Editors to the Experiment Stations committee would have to be made without consultation with the Editors. Later appointments could be made on recommendation of the Station's editors of each region.

5. The committee would be assigned as one of its first items for consideration the request of W. E. Colwell that ESCOP assist in establishing the mechanism by which an editorial board would be provided for screening scientific manuscripts on tobacco. Other items would be such follow-up as might be desirable in the committee's judgment or assigned to it by Clark, Macy, and others on publications costs and distribution. The committee also encompasses the editorial advisory committee recommended by a group of editors under date of May 5, 1955, to A. D. Weber.

ATTACHMENT R

A VISUALIZED PROGRAM FOR MARKETING

by

Congressman Clifford R. Hope of Kansas

(An address delivered on February 12, 1951, in the Jefferson Memorial Auditorium as one of a series of lectures on the subject of agricultural marketing presented under the auspices of the Graduate School of the United States Department of Agriculture.)

I appreciate the honor of speaking on this series of lectures on agricultural marketing. If I understand my assignment correctly, it is to discuss some of the history and background of Title II of the Research and Marketing Act of 1946 and to express an opinion as to the progress which has been made in carrying out the program contemplated under that Title.

Many of you were in the Department when this legislation was considered in Congress. All of you, I am sure, are familiar with it in a general way and know something of its background. I believe, however, that the history and background of this legislation is so important in showing what Congress had in mind at the time the legislation was passed that I should review the matter quite extensively even at the risk of going over ground with which some of you at least are already quite familiar.

This legislation, and I am speaking now of Title II, was the direct result of an intense interest in the marketing of agricultural products which developed during the 78th and 79th Congresses. It was not an effort to meet an acute problem then in existence; rather it contemplated setting up a program which, while of a long time nature, might give some effective relief to conditions which were expected to develop during the period following the end of World War II. The discussions which took place in the Committee on Agriculture of the House and in the Congress during the 78th and 79th Congresses clearly indicate that members of Congress had a great appreciation of what had been accomplished for agriculture during many years of research in the field of production. The fact that American farmers were able almost overnight to increase agricultural production by more than thirty percent, in spite of shortages of labor, machinery, fertilizer and transportation, made a great impression upon members of Congress and with it came the realization that this spectacular development was due in large part to many years of patient research in the laboratory and test plot.

There was a feeling that, while this increase in the ability of farmers to produce was a godsend during the war, it might create serious problems following the war unless consumption during normal times was sufficient to absorb it. It was natural under those circumstances for many

to reach the conclusion that, if we could approach the problems of marketing and distribution in the same way and with the same success we had met the problems of production, we would have the answer.

There was also a strong feeling in Congress and also among farmers that the only permanent and satisfactory solution of the problem of surpluses, particularly of the perishable commodities, lay in the development of a better system of marketing and distribution rather than through government price support programs.

The first definite step in the way of action on this subject, came with the introduction in the 78th Congress by the Chairman of the House Committee on Agriculture, the late Hampton P. Fulmer of South Carolina, of House Resolution Number 38, which passed the House unanimously on May 27, 1943. That resolution authorized and directed the House Committee on Agriculture "to make a study and investigation of the present system of marketing, transportation and distribution of farm products from rural areas through the various marketing agencies to the ultimate consumer as it affects farmers, the various types of middlemen, wholesalers, retailers and consumers." The following were named as specific subjects for investigation:

(1) The effectiveness of the present system of marketing and the adequacy of marketing facilities with particular regard to the protection of farmers and consumers.

(2) The effect of transactions on the commodity exchanges upon farmers and consumers.

(3) The existence of any practices in connection with grading, storing, processing, transporting, distributing or marketing of farm products which adversely affect farmers and consumers.

(4) The part which transportation plays in the distribution of farm products and the possible existence of discrimination in transportation rates.

(5) The feasibility of setting up a cooperative program of marketing and distribution through local, state and national marketing agencies which would provide facilities for grading, distribution, storage and other essential activities.

The committee was directed to make a report to the House after the conclusion of its investigation and make such recommendations as it felt proper with respect to legislation.

I think it might be pertinent to point out that Chairman Fulmer, the author of the resolution, was a South Carolina farmer who produced a wide variety of crops, including fresh fruits and vegetables for the commercial market. Through long experience he came to feel the frustration which every producer of perishable commodities must feel when he contemplates the risks which must be taken not only by the producer but by the handlers of perishable agricultural commodities under our present marketing system. He was indignant at the low price which producers received and the high price which people in consuming centers were compelled to pay. On many occasions I have heard him express his views on the subject in the course of which he compared the actual price he received for fresh vegetables at his farm in South Carolina with the price quoted in Washington wholesale and retail markets. I think it should be noted that the concern which was expressed by Mr. Fulmer was directed just as much to the high price which the consumer had to pay as it was to the low price which the farmer received. 1/

In the beginning Mr. Fulmer appointed a subcommittee consisting of Honorable John W. Flannagan, Jr., as chairman, Honorable Stephen Pace and myself as the other members, to formulate plans and set up an organization to carry out the studies authorized under the resolution. Despite the great interest in the subject matter, this investigation was slow in getting under way. We were in the midst of a war. Members of Congress were exceedingly busy on problems arising out of the war. Qualified staff personnel members to conduct the investigation were hard to secure.

The subcommittee, however, worked out a program of study which was outlined in a speech made on the floor of the House by Mr. Flannagan on June 21, 1944. 2/ This program contemplated a study of every phase of marketing activity, beginning with shipping-point organizations, facilities and practices and going right down through every phase of marketing activity until the product reached the consumer. However, for reasons already stated, the committee was not able to complete its study during the life of the 78th Congress. So great was the interest in this subject that much disappointment was expressed by members of congress from both rural and urban districts because the committee was not able to complete this investigation.

Consequently, early in the First Session of the 79th Congress, Mr. Flannagan, who had succeeded to the Chairmanship of the Committee on Agriculture following the death of Mr. Fulmer, introduced House Resolution 54 to authorize the Committee on Agriculture acting as a whole or by subcommittee to make an investigation of the existing system of marketing, transportation and distribution of farm products. Investigation called for by this resolution was of somewhat greater scope than that provided for in the 78th Congress. In addition to the subject matter included in the 78th Congress resolution, the new resolution called for a study of "the adequacy of present facilities, local, state and federal, for

(1) furnishing producers, distributors and consumers with market reports and marketing information,

(2) the development of standards and grades,

(3) the inspection and certification of the quality and condition of farm products,

(4) the development, analysis and publication currently of information showing the cost of marketing farm products through the various channels of distribution,

(5) the inspection of meat and meat products and the influence of such facilities on the marketing of livestock,

(6) protecting producers, distributors and consumers from unfair trade practices in the marketing of farm products."

Reference is made to this expansion in the scope of the committee inquiry for the reason that it indicates the interest of the committee in the service and regulatory activities of the Federal, State and local governments, together with the part which those activities played in the marketing of agricultural commodities. Significantly also, the new resolution called for a study of the effect of price support activities upon the marketing and distribution of farm products.

House Resolution 54 was reported by the Committee on Rules on February 20, 1945. 3/ A number of members of the House spoke in favor of the resolution when it came up for consideration on February 26, 1945, and the only definite opposition was on the part of one member of Congress who explained it by saying that he was against all investigating committees. In the discussion of this resolution it was remarked by several members that agriculture had made tremendous progress in the field of production through research and education, but that nothing comparable had been done in the field of marketing. 4/

So widespread was the interest in this subject that activity was not confined to the investigation being conducted by the Committee on Agriculture. Because of this interest, Minority Leader Joseph W. Martin had appointed a Republican Food Study Committee under the Chairmanship of Honorable Thomas A. Jenkins of Ohio. The purpose of this committee was to make a thorough study of all problems concerned with the production, marketing and distribution of food, both from the standpoint of the producer and the consumer. This committee held hearings in various parts of the country and through its staff made comprehensive studies on the subject. As a result of these studies, the Food Study Committee concluded that some action should be taken by Congress in the field of research on agricultural marketing and distribution, and that better use should be made of existing government agencies dealing with food distribution, processing and consumption. As a result of the conclusions reached by the committee, a bill was prepared which was introduced in the House by myself on March 28, 1946 and given the

number H.R. 5925. Because this bill is the direct ancestor of Title II of the Research and Marketing Act and because it represented the thinking of a number of members of Congress at the time, it might be pertinent to read to you now the Title of the Bill and its Declaration of Policy. The Title reads as follows:

> "To improve nutritional standards, reduce the cost of food distribution, provide a broader outlet for American farm products, and promote scientific development of food processing, distribution and marketing, by establishing a National Food Research Institute."

The Declaration of Policy reads as follows:

> "The Congress hereby declares that full production of food and farm commodities and effective utilization of all that is produced is essential to the welfare of the Nation and the health and prosperity of its people. The Congress further declares that the application of scientific methods to the production of food and fiber having been highly successful during the past eighty-four years, a similar scientific approach to the problems of utilization of all agricultural products shall be the policy of the United States, so that we may learn how to make effective and profitable use of the food and fiber we now know how to produce in abundance. The Congress further declares that establishment and operation of a National Food Research Institute for the purpose of concentrating scientific research, skill, and methods on the problems of food and fiber utilization is essential to the welfare, health and prosperity of the people of the United States. The policies to be followed in attaining these objectives shall be (1) improvement of the operation of the private marketing system to eliminate waste and inefficiency and thereby to reduce the relative cost to the consumer; (2) making available to the food production, processing, and distribution industry scientific laboratory and research facilities and personnel so that opportunity for scientific research and development shall be available on reasonable terms to all members of the industry; (3) improvement of dietary and nutritional standards through research, processing and marketing improvements and education; (4) development of new and wider markets for American food and fiber products, both in the United States and other countries, with a view to making it possible for the full production of American farms to be disposed of usefully and profitably without resort to subsidies or artificial price-support programs."

In order to carry out the purposes of the legislation as set out in the Declaration of Policy, the bill provided for the transfer to the National Food Research Institute of "all functions, powers, duties and authority of each and every agency, division in or under the Executive Branch of the Government which, in the opinion of the President as expressed pursuant to Subsection B hereof, is primarily concerned with food processing, marketing, distribution or utilization, or which would if continued substantially duplicate any function of this Act authorized to be performed by the Institute."

Thus it will be seen that it was the purpose of this legislation to bring together in one bureau all of the agencies not only in the Department of Agriculture but in every branch of the government which dealt with the marketing, processing, distribution or utilization of food products.

H.R. 5925 aroused a great deal of interest in Congress and out. It was submitted to officials in the Department of Agriculture and in other agencies for their consideration and suggestions. Farm organizations, officials of marketing groups, and many individuals engaged in the distribution, transportation and processing of food were asked to give their advice and opinions. On the whole, the objectives and purposes of the legislation met with a very favorable response and the extent of the interest manifested was indicated by the many helpful suggestions which were made as to possible changes and improvements.

All of this occurred at about the same time the Committee on Agriculture was concluding its marketing studies under House Resolution 54. That committee, as a result of these studies, reached the conclusion that the subject matter was so important, so complex and so much of a continuing situation that it was beyond the ability of any Congressional committee to find the answer to all of the many problems involved in the course of a Congressional session. Instead it was felt that the only way that these problems could be adequately considered and solved would be through a program of extensive and continuous research comparable to the research which had heretofore been carried out so successfully in the field of agricultural production. This meant in effect that the committee agreed with the approach to the problem which was suggested by H.R. 5925. However, it was felt that further consideration should be given to the matter and that H.R. 5925 should be revised with a view of incorporating the results of the studies of the special committee and some of the suggestions which had been made by marketing experts in the Department of Agriculture and by men with practical experience in the field of marketing and distributing farm and food products.

On June 6, 1946, H.R. 6692 was introduced in the House as a substitute for H.R. 5925. This bill covered very much the same field as the earlier measure but was a much improved bill, embodying many practical and helpful ideas which had been suggested by those who had studied H.R. 5925. H.R. 6692 provided for a new agency in the Department to be known as the Agricultural Marketing Administration. Like the earlier bill, it provided for bringing together all governmental agencies dealing with the processing, distribution and marketing of food and in addition provided for the transfer to the new agency of all of the service and regulatory activities of the Department of Agriculture. This might have been implicit in the earlier measure, but in H.R. 6692 it was specifically set out. Thus we find that, as a result of the thought and study and experience of a great many men in Congress and out who were interested in improving the marketing of agricultural products, there evolved the program contained in H.R. 6692.

About this time, there was introduced in the House by Chairman Flannagan H.R. 6548 to expand agricultural research as previously carried out under the Bankhead-Jones and prior acts. This measure incorporated some new features, such as the authority to contract with agencies outside of the government for research work, and broadened the scope of research especially in the field of utilization, but fundamentally it was a continuation and expansion of the program of research which had been carried on by the Department of Agriculture and the land-grant colleges for many years. Because each of these bills (H.R. 6548 and H.R. 6692) dealt with the subject of research, because there was intense interest in each of them, because most of those who were interested in one bill were also interested in the other and because the end of the session was approaching, it was decided by the committee to hold a joint hearing on the two bills.

Many of those who appeared before the committee expressed their approval of both bills. Among those appearing who were particularly interested in H.R. 6692 were the late Albert S. Goss, Master of the National Grange; John H. Davis, Executive Secretary of the National Council of Farmer Cooperatives; C. W. Kitchen, Executive Vice President of the United Fresh Fruit and Vegetable Association, whose long experience in the field of marketing activities in the Department of Agriculture was well known to everyone; F. R. Wilcox, Assistant General Manager of the California Fruit Growers Exchange; Albert J. Garner, Commissioner of Agriculture of the State of Maine; H. F. Thatcher, Director of the Division of Agriculture and Industry from the Arkansas Resources and Development Commission; L. M. Walker, Jr., Commissioner of Agriculture for the State of Virginia; Warren W. Oley, Chief of the Bureau of Markets of the New Jersey Department of Agriculture; and W. Kerr Scott, then Commissioner of Agriculture of the State of North Carolina and now the Governor of that State; and others.

During the course of the hearings, the committee reached a decision to combine the two bills -- H.R. 6548 becoming Title I, and H.R. 6692 becoming Title II. To these were added the third title covering the appointment of advisory committees. A committee print was drafted containing the three titles and the hearings were continued on this committee print. Both of the original bills had been submitted to the Department of Agriculture for a report with the result that the Department expressed its approval with some slight amendments of 6548 and expressed its approval of most of the objectives and purposes of 6692, but objected to those provisions which brought together all of the many and scattered agencies dealing with agricultural marketing into the Agricultural Marketing Administration.

Mr. Norris Dodd, Under Secretary of Agriculture, appearing before the committee on behalf of the Department, urged that instead of setting up the new administration that the bill be amended so as to simply give the Secretary authority to carry out all of the provisions contained in the bill. The committee was very reluctant to make the change. As far as I know, and I think I do know, every member of the committee favored the provision setting up an Agricultural Marketing Administration and felt that this was the heart of Title II. However, responding to the plea of the representatives of the Department that they did not want to be bound to the exact type of organization set up in the measure and because of the lateness of the session and the desire to enact the legislation before adjournment, the committee

acceded to the Department's suggestions and deleted the provision specifically setting up the Agricultural Marketing Administration. However, in Section 206 of the bill the Secretary of Agriculture was authorized to transfer all of the agencies dealing with "research, service or regulatory activities in connection with the marketing, transportation, storage, processing, distribution of, or service or regulatory activities in connection with the utilization of agricultural products into a single administrative agency."

In order that there might be no mistake as to the views of the committee on this point, the committee report deals specifically with the subject as follows:

"One of the principal aims of Title II is to facilitate administration of, and to increase the effectiveness of, the marketing work of the Department of Agriculture, and to give it the emphasis and attention that it should receive by providing for the integration of all the marketing functions of the Department, including marketing research, service, and regulatory activities into a single agency, whose primary responsibility shall be to conduct and administer programs designed to improve the marketing and distribution of agricultural products.

"Testimony introduced at the hearings shows that such activities as the Department has developed to improve the private marketing system have been shifted about through a long series of departmental reorganizations, and at present the marketing research, service, and regulatory activities are spread among various bureaus, agencies and branches, of the Department. Such agencies all have numerous other duties in addition to their marketing functions. The agency in the Department of Agriculture that has a major share of the responsibilities for administering marketing services and improving distribution is also charged with the responsibility of production goals, support price activities, activities of the Commodity Credit Corporation, purchase and sale activities, and other action programs, all of which are very important and necessarily make strong demands upon the time and energies of the Administrator. In view of the great importance of the marketing and distribution problems to the welfare of agriculture and of the Nation, and of the fact that so little effective work has been done in this field in comparison with the magnitude of the problem, this committee has reached the conclusion that research in marketing and the closely related marketing services and regulatory activities of the Department of Agriculture should be handled by an integrated, administrative unit within the Department, responsible to the Secretary. Such a unit should be staffed with qualified marketing experts and should be permitted to utilize all its energies and resources for promoting, improving, and developing a sound marketing system without its administrative officers being burdened with other complicated problems and heavy responsibilities incident to other important functions of the Department of Agriculture, much as they are at present. This is the method which has been used to achieve notable success in the field of production research. This committee is of the opinion that under such an administrative organization great progress can rapidly be made in the field of marketing.

Accordingly, the bill authorizes the Secretary of Agriculture to transfer and consolidate the marketing research, service, and regulatory activities." 5/

The combined bill which bore the number H.R. 6932 and was reported on July 8, 1946, came before the House on July 15, 1946. It passed the House as it later passed the Senate by an unanimous vote. Many members of the House expressed their approval of the legislation on that occasion as well as their gratification that the committee had brought out such a comprehensive research program. On the question of how the authority given the Secretary in Title II should be handled, Chairman Flannagan said, "The marketing program will never be a success until the marketing research, services, and regulatory work of the Department of Agriculture is coordinated under one directing head. While I believe the Secretary should be given a free hand in bringing about the proper coordination and consolidation of the respective marketing research, service, and regulatory agencies, as provided for in Section 206, I am strongly of the opinion that unless this is done, the marketing program will be a failure. It is the unanimous opinion of the House Committee on Agriculture that the Secretary should carry out the intent of Congress as expressed in Section 206 at the earliest date possible." 6/

I can say without any hesitation whatever that Mr. Flannagan was speaking for the entire committee in making this statement and I think I can say he was expressing the viewpoint of practically everyone who contributed in any way to the formulation of this legislation.

For reasons which will appear later, I have devoted what may seem to be an excessive amount of time and detail in going into the legislative and historical background of Title II of the Research and Marketing Act. In doing so I have not depended upon my recollection of the matter but have reviewed and restudied the legislative proposals and hearings which led up to the enactment of both Titles I and II, as well as Title III of that Act.

Let me now briefly summarize what was covered in Titles I and II. Title I was an amendment of Title I of the Bankhead-Jones Act. It contained little that was new. Its principal purposes were (1) to provide for contract research, (2) bring agricultural research activities up-to-date, and (3) authorize more appropriations for the same.

Title II, on the other hand, was entirely new. Its over-all purpose was to improve the marketing and distribution of agricultural products. This was to be achieved in three principal ways: (1) to bring together into a single agency all administrative units in the Department of Agriculture dealing with the distribution of agricultural products, whether in the fields of research, service or regulation, (2) to carry out marketing research on a scale where it ultimately would be comparable with production, (3) to separate marketing activity programs from those dealing with price supports, production controls and government pruchasing programs.

It was the feeling of those who sponsored and supported Title II that throughout the years most of our agricultural efforts had been devoted to production and practically none to marketing. It was believed that as a

result of this emphasis on production, that phase of agriculture had far outstripped the equally important function of marketing. It was further believed that, if all agricultural marketing activities could be combined in one agency, it would give marketing a tremendous impetus and enable it to match production.

It is not necessary for me to say that the results under the Research and Marketing Act have been disappointing. Let me hasten to say that in stating this I mean no criticism whatever of those who have been in charge of its administration. I have an extremely high regard for the work of Mr. E. A. Meyer, the first Administrator of the Act, and I am sure that Dr. Cardon and his associates know that I feel they have done the best possible job under the circumstances. Nor do I think the Appropriations Committees of the Congress should be criticized for their failure to make the full amount of appropriations authorized by law.

It is my view that the partial failure of the Act is due primarily to the fact that the intent of Congress with respect to the administration of Title II has never been carried out. Following the enactment of the law and on more than one occasion, a number of members of Congress as well as others interested in the program conferred with Secretary Anderson and urged him to make the organizational changes authorized by the Act. However, we were never able to convince him that this should be done, possibly because he had recently completed a reorganization of the Department based on a different theory. I have never discussed the matter with Secretary Brannan and I do not know that anyone else has, but for reasons which he doubtless considers good and sufficient, he has followed the same policy as his predecessor in this matter. But while I am not criticizing those who oppose the program called for in Title II, I want to reiterate my belief in its merit and practicability and urge its further consideration.

No doubt most of you are familiar with the study of the operations of the Research and Marketing Act made last year by a study group headed by Mr. D. Howard Doane. This study was initiated by the House Committee on Agriculture through a subcommittee headed by Honorable Stephen Pace. The Doane group was composed of able and experienced men and its studies were thorough and conscientious. It had the complete and hearty cooperation of the Secretary of Agriculture and other departmental officials, particularly Dr. Lambert and his associates. The committee wisely covered the whole field of agricultural research and developed some very interesting and helpful information. For instance, it found that there are on the books now some sixty separate acts of Congress which authorize appropriations for agricultural research. 7/ The committee's report makes some excellent recommendations with respect to agricultural research generally, but it seems to me it fell down rather badly in attempting to deal with Title II, never really agreeing on anything in that connection, although some members of the committee sized up the situation correctly and urged that an effort be made to carry out the real objectives and purposes of that Title. 8/

I have spoken of the helpfulness of Dr. Cardon in connection with the Doane Committee's activities. One of the most helpful and illuminating statements which came out of the investigations was that made by Dr. Cardon on May

26, pursuant to a request by Subcommittee Chairman Pace. 9/ In this statement Dr. Cardon put his finger squarely on the principal source of the confusion surrounding the administration of the Research and Marketing Act. Dr. Cardon stated that this confusion stemmed from two concepts, one being that the Research and Marketing Act had to be administered as an integral whole, the other being that the Research and Marketing Act program should be regarded as of a different character than the research, education and service work previously carried out by the Department. I agree with Dr. Cardon that these concepts existed, and in my opinion, both were erroneous. I think I can give you the reason for these erroneous concepts. They stem from the fact that Title II was never carried out as Congress intended it should be. I have already pointed out that Title I and Title II were entirely different types of legislation springing from an entirely different background and that their consolidation into one act was simply a marriage of convenience for the purpose of expediting consideration and enactment. There is no reason on earth why Title I should not have been considered then and now as an extension of existing law, which it was, and administered along with other legislation relating to the same subject. Nor is there any reason why appropriations authorized under Title I should not have been considered in connection with appropriations for previously existing research activities. I think it would have been so considered had there been no Title II. And had Title II been carried out as intended by Congress and a new agency set up as contemplated, the two bills would have had to be administered separately. Thus all the difficulties which have arisen over the administration of both titles could have been averted had the intent of Congress been carried out as to Title II.

I hope I have not given the impression that nothing has been accomplished in the field of marketing research during the past four years. There is plenty in the record to belie any such conclusion. Considering the funds which have been available, much has been done, but it is only a fraction of what had been hoped for. No doubt more could have been done with larger appropriations, but a look at the hearings before the House Appropriations Committee from 1947 and thereafter indicates that there is little likelihood of larger appropriations unless something substantially like the original program is carried out. In this the Appropriations Committees are probably wise. 10/ Likewise, it seems to me that under existing conditions it will be hard to impress the Bureau of the Budget with the importance of increased appropriations for this work.

If the program whereby all marketing activities in the Department were to be brought together had been carried out, it would have given such an impetus to marketing that there would have been some hope that it could attain the status of production in the Department's activities. Because marketing research ties in so closely with service and regulatory activities, such an arrangement would have made a greatly expanded research program possible. It would have enabled all those in the Department who work with marketing to give their undivided attention and energy to such program. That, it seems to me, is impossible as long as marketing activities are widely scattered, and in many cases, closely tied in with action programs like price supports, production adjustments, and buying and selling operations.

It is still my hope that eventually the advantages to be secured from the reorganization authority contained in Title II will be so persuasive that some Secretary of Agriculture will use it. Until that is done, I see little opportunity for carrying out any program which will give marketing the same importance as production as far as government activities are concerned.

1/ See p. 4986 Vol. 89 Congressional Record.
2/ P. 6388 Vol. 90 Congressional Record.
3/ House Report 182, 79th Congress.
4/ Pp. 1449-1460 Vol. 91 Congressional Record.
5/ House Report No. 2458, 79th Congress.
6/ P. 9030 Vol. 92 Congressional Record.
7/ Appendices G1, G2, G3, pp 94-98, Hearings on Federal Agricultural Research, House Committee on Agriculture, 2nd Session, 81st Congress, Serial ZZ.
8/ Ibid Exhibit 2 pp. 62-69.
9/ Ibid, p. 51, also Report of Activities under Research and Marketing Act 1950, Agricultural Research Administration, p 3.
10/ See Part 1, Hearings on Department of Agriculture Appropriation Bill 1948 especially p. 53 and pp. 206-239, also hearings in subsequent years on appropriations for Research and Marketing Act.

ATTACHMENT S

Problems of Planning Regional Research Under the Research and Marketing Act

E. C. Elting
Associate Chief, Office of Experiment Stations, U. S. D. A.

Thirty-two months ago today, on Aug. 14, 1946, President Truman affixed his signature to a bill passed by the 79th Congress which marked the enactment into law of P. L. 733, a law that has come to be known as the Research and Marketing Act.

A review of the manifold activities which have occurred since that date in the interest of putting into operation the numerous and complex provisions of that law is far too great a task to be attempted within the space of time allotted to me.

The fact that your program chairman has selected the topic of this paper for discussion today signifies that problems still confront those charged with the planning and administration of programs of work under this Act. When I was approached by the chairman of your Council to appear on this program, I accepted willingly, not because I profess to know many of the answers to the problems referred to, but rather because I feel that we who are concerned with the administration of this Act should not miss an opportunity to enter into discussion with interested groups in an attempt to stimulate clear thinking on the problems involved, and to challenge the leaders responsible for program planning to take full advantage of the tremendous possibilities offered under the Research and Marketing Act for broadening and strengthening our attack on many fronts, particularly on the problems of distribution and marketing of agricultural products, a subject which has been of primary concern to your organization for over a quarter of a century.

It is altogether proper that the emphasis of this discussion should be on Planning Regional Research because it is in that phase of research planning that we are most lacking in experience, and because your organization has helped to develop the organizational pattern now generally adopted by the State agricultural experiment stations and the U. S. D. A. for planning and conducting regional research.

An address before the annual meeting of the New England Research Council at Harvard University, Cambridge, Mass., April 14, 1949. (Read by W. B. Stout, Experiment Station Administrator, Office of Experiment Stations, U. S. D. A.)

Why did the framers of the Research and Marketing Act see fit to write Section 9b3 and thereby depart from the traditional pattern of allotting Federal-grant research funds to the State agricultural experiment stations on a straight formula basis? Certainly, they must have foreseen that it would create new and difficult administrative problems. Surely, they recognized that the urge to secure additional funds on the part of individual institutions would place a difficult responsibility on those charged with the final allocation of funds. The answer must be that they were firmly convinced that the advantages of creating a Regional Research Fund outweighed any disadvantages inherent in this provision. This conviction on their part was not without basis of fact, fact supplied in no small measure by the success of regional research projects fostered in earlier years by the New England Research Council and other groups.

Recognition of the value of attacking certain types of problems on a broad front under the combined and coordinated efforts of a number of institutions has grown steadily since the turn of the century. The passage of successive Federal acts providing for the more complete endowment of agricultural experiment stations of the land-grant colleges through Federal grants-in-aid has constituted milestones in the progress of more effective research through regional effort. This is witnessed by the group of cooperative regional and Nation-wide projects organized immediately after passage of the Purnell Act in 1925. The Bankhead-Jones Act of 1935 gave special impetus to this movement through its provision for a number of regional research laboratories involving State experiment station collaboration with the Federally supported laboratories. The organization of groups of experiment station directors into strong regional bodies, which have come to play so important a role in research planning, largely was consummated following passage of the Bankhead-Jones Act. This increasing interest in the regional approach to research was marked by the establishment of such planning groups as the Corn Belt Livestock Marketing Research Committee and the North Central and the Southwestern Land Tenure Research Committees, each charged with the responsibility of planning a regional project, or projects, within their respective fields. These events are mentioned in order to provide a better setting for the activities which ensued following the passage of the Research and Marketing Act.

Let us briefly review those activities in order to gain a better understanding of how the RMA Regional Research Program which exists today came into being. In the first place, it will be recalled that no appropriations for fiscal year 1947 followed the passage of this Act, so no research actually began during that year. Furthermore, all funds to finance planning conferences during that year had to be derived from other sources, which worked real hardships on many institutions.

The real beginning of an organization for building a regional research program was the 1946 Annual Convention of the Association of Land-Grant Colleges and Universities, held in Chicago, Dec. 16 to 18, even though it was not definitely known at that time how much, if any, funds under this Act were to be included in the President's budget for fiscal year 1948.

In accordance with the provisions of Section 9b3 of the Act, the committee of nine persons to be elected by and representing the directors of the State agricultural experiment stations was created at that meeting. Fully cognizant of the responsibilities imposed upon it for recommending to the Secretary of Agriculture the projects to be financed by the Regional Research Fund, and the allocation of the funds, project by project, and State by State, the newly created committee felt compelled to lay down certain guides for the planning groups to follow, if anything resembling an orderly program was to be achieved by the beginning of the new fiscal year, barely six months away.

Fortunately, this original committee of nine included a number of experiment station directors who had been influential in promoting the passage of the Research and Marketing Act, and who were fully familiar with the extensive hearings on the bill, and the fact that the bill was to a large extent a composite of a number of individual bills on specific subjects which had previously been under consideration. These circumstances made it mandatory that certain subject-matter fields have high priority in the developing of the new program if faith was to be maintained with the sponsors of the various research bills which finally had been merged into the Research and Marketing Act.

The first report of this committee to the Experiment Station Section of the Association, before adjournment of the Chicago meeting, therefore, strongly recommended that for the first years program under the Regional Research Fund, major emphasis be placed upon projects in Marketing, Rural Housing and Farm Buildings, Human Nutrition, the Introduction and Testing of New Plants Offering Promise for Industrial and Other Uses, Cotton Improvement and Mechanization, and such other subjects to be designated by the regional groups of directors as funds might permit. A review of the program finally adopted for fiscal year 1948 will indicate that these recommendations were well heeded.

Lest the committee be accused of dictatorial tactics, I should hasten to add that it made clear at that time that thereafter it would not presume to indicate fields of work which should be considered for support under this fund in subsequent years, believing that such a program should stem from the grass roots, and that the determination of subject matter priority, beyond those considered mandatory as explained above, should rest fully with the regional associations of experiment station directors.

Confronted at that point with setting up an organization for speedily swinging into action on program planning, it is not surprising that the regional associations of directors turned to the type which was already functioning smoothly in connection with a number of existing regional projects. All of you are familiar with that organization, consisting of an administrative adviser for each major project, selected from the directors' group to represent them and to have responsibility for establishing and guiding the project technical planning committee. This technical committee is the mainspring of the organization and upon it falls the major responsibility for a well planned, smoothly operating research project. The operation of such a committee may be varied to suit the needs of the particular problem involved. The plan is sufficiently flexible to deal with narrow line projects or broader types of undertakings, frequently involving a number of distinct phases or subprojects without departing from the basic type of organization.

With this rather lengthy prelude as a background, let us examine some of the problems involved in planning regional research. Some of these problems were clearly recognized prior to the passage of the Research and Marketing Act and have been recorded for our guidance. I refer specifically to a paper by Mr. Knute Bjorka of the Bureau of Agricultural Economics, entitled, "Regional Research in Agricultural Marketing," published in the February 1945 issue of the Journal of Farm Economics. Mr. Bjorka's article is based on his extensive experience as coordinator for a series of regional projects carried out under the sponsorhsip of the Corn Belt Livestock Marketing Research Committee and involving the cooperation of 14 midwestern experiment stations and certain research agencies of the Department, especially the Bureau of Agricultural Economics. A review of the problems he has described indicates that they are just as real today as they were four years ago. He has grouped those problems into six major classes as follows:

1. Problem of creating and maintaining competent and effective technical committees.

2. Problem of selecting appropriate projects.

3. Problem of project coordination.

4. Problem of attaining reasonably uniform progress among cooperators.

5. Problem of organizing and financing planning conferences.

6. Problem of publishing results of regional undertakings.

To this list I would propose that the following points be added:

7. Problem of defining regions.

8. Problem of interregional coordination.

9. Problem of developing and maintaining adequate specificity of objectives.

10. Problem of periodic reappraisal and revision of projects as circumstances may warrant.

11. Problem of attaining optimum level of participation and financing.

12. Problem of timing the planning activity to meet the requirements of present day budgetary procedure.

Perhaps other items should be added to this list as may be developed during the course of our discussion today. Admittedly, some of the points mentioned above extend beyond the bounds of research planning in a restricted sense but certainly all represent problems with which administrative and planning groups must come to grips sooner or later in the course of a regional research undertaking.

Let us now discuss, as time permits, how some of the problems enumerated

above may be approached in the interest of more effective and smoother working regional research programs.

I am sure you will all agree that the activities of the technical committee assigned the responsibility for developing the detailed plans for attack on any particular subject chosen for a regional project largely determines the success or failure of the group effort, assuming that the subject with which they have to deal is appropriate for a sound regional project. The members of the technical committees, comprising as they do representatives from individual institutions, must be able largely to subordinate the interests of their institutions for the benefit of the region as a whole; they must have a full appreciation of the possibilities of the regional approach; and, above all, they must be able to work with other members of the groups, compromising their viewpoints where necessary in the interest of a generally acceptable and mutually satisfactory final plan. Moreover, they must possess the technical qualifications and intimate knowledge of the subject involved so that the final plan will represent a technically sound and workable approach to the problem at hand. Once the over-all plan is drawn and agreed to, the representatives of the individual institutions still have a major task to perform in seeing that the detailed segment of the over-all plan assigned to their institution shall progress in keeping with the intent of the plan. Thus, it is apparent that leadership, technical capability, as well as special interest in the project, and the necessary time to devote to it, are all primary essentials of a good committee member. It is obvious, of course, that the responsibilities of such committeemen must be clearly delineated with respect to their relationship to the administrative adviser, to the regional organization, and to their respective institutions.

The Committee of Nine has prepared a statement entitled, "Definitions of Terms and Functions Related to the Organization and Administration of Cooperative Regional Projects with Special Reference to the Agricultural Research and Marketing Act," in which they have set forth their concepts of the responsibilities to be assumed by the administrative advisers and the technical committee for each RMA regional project. This document also goes into certain other aspects of the problems under discussion here today and will be of general interest to the group. Many of you doubtless have had opportunity to review it, but additional copies are available for distribution to those who wish to secure them.

The problem of selecting appropriate fields for attack on the basis of regional projects obviously is of foremost importance and no amount of planning and organization can hope to accomplish satisfactory results if in the final analysis it proves that the subject for consideration does not lend itself to such group effort. Doubtless some of you who are associated with the prosecution of regional projects have been confronted with the question as to whether the subject under investigation really is appropriate for a regional project. Certainly, that question must be asked again and again among groups charged with the responsibility of determining new fields of work which shall constitute the basis of future regional projects. The experiment station directors present will testify that this problem has been the subject of long discussion at their meetings of regional associations of

directors, and that they in turn have to rely on the best judgment and guidance of their technical workers in order to arrive at sound conclusions on this point. While it is difficult to establish rigid criteria which will always give a satisfactory answer to this question, the North Central directors association has attempted to approach it by creating three rather broad categories into which they first attempt to classify any subject presented for their group consideration. These categories are:

Category 1: Those which are truly regional and demand regional approach for their solution; for example, those involving commodities having extensive inter-State movement (grain, milk); those requiring large scale facilities for providing materials (plant introductions); and those involving large expenditures (dairy and beef cattle breeding).

Category 2: Those for which regional coordination is desirable, such coordination requiring either small financial support for conferences or additional financial support because of urgency of the problem. Examples of projects falling in Category 2 would be Newcastle disease, measurement of quality in eggs and poultry, rumen digestion, and oat breeding.

Category 3: Those which are purely state projects, as, for example, those devoted to problems of purely local interest or to fundamental studies by a single worker or group of workers in one institution. Studies concerned with Fusarium wilt of mint, the chemical nature of vitamins, or the formulation of a new insecticide or fungicide, would fall in this category.

Once they have arrived at a satisfactory classification on this broad basis, the problem of establishing priority for fields of work to be undertaken on a regional basis is considerably simplified. Suffice it to say that many persons are viewing with a critical eye the basis on which regional research programs are being developed and constant effort must be applied to strengthening the program and particularly in determining that only suitable subject-matter fields be included in the development of this program.

The organization required for attaining proper coordination among the agencies participating in a regional project will vary with the type and complexity of the problem involved. Proper coordination will continue, however, to constitute one of the most important factors for consideration of the project leader, particularly at the technical committee and administrative adviser levels. In our brief experience of less than two years of RMA regional projects, we can already point to certain projects that are encountering rough sailing because proper attention has not been devoted to attaining a truly coordinated effort. The problem cannot always be solved through the medium of designating some individual as project coordinator, although in many instances this step is needed. Part of the problem stems back to the type of study originally selected. It becomes obvious that should the phases of a regional project assigned to the individual agencies constitute a series of highly individual research only loosely related to the over-all subject, no amount of effort at coordination is going to produce an end product that is a truly cooperative accomplishment. Here again, we are still searching for the best approach to the coordination problem. Probably only experience

can dictate the best procedure for the various types of projects involved.

The next point, that of attaining reasonably uniform progress among co-operators in a regional undertaking, is closely related to the coordination problem. It does mean that each institution entering into a regional project must do so with the proper sense of responsibility and with the facilities and personnel, or means of acquiring such facilities and personnel, that will permit them to move forward step by step with the other members of the team. Certainly, the best laid plans can go awry if at the end of a year it is found that some members of the team have lagged far behind, thus upsetting time tables and otherwise interfering with normal progress and advanced planning for the whole undertaking.

I shall pass over points 5 and 6 and next discuss the problem of defining regions. In view of the fact that four major agricultural regions have long been recognized by the Experiment Station Section of the Land-Grant College Association, and the directors within these four regions are organized into well knit working groups, it is only natural that our first consideration would be to develop regional projects within the bounds of those four regions. While, undoubtedly, this step has expedited progress in the early stages of developing regional programs, the fact remains that certain problems warranting investigation do not lend themselves to such regional breakdown. The main point to remember in this connection is that we are not bound by law to such a definition of regions, since the law in fact defines regions simply as two or more States having interest in a problem that concerns the agriculture of more than one State. It is important, however, that administrative machinery remain sufficiently flexible to make possible the bringing together of States having interest in such common problem regardless of the geographic location. This may well mean, for example, that Florida, on the producing end of citrus, and New York, on the receiving or consumer end, might constitute the most effective combination of States for attack on a regional citrus marketing project.

The next point, that of interregional coordination, is one which requires our very careful consideration, since a considerable number of projects, particularly within the marketing field, but also within the field of livestock improvement, and others, have been undertaken simultaneously in two or more of the major agricultural regions. In general, we have not created an adequate mechanism for synchronizing the efforts by those regional groups, and unless proper attention is given to this situation, maximum accomplishment at the national level cannot be attained. I do not mean to imply that attention has not been given to this point, or that a considerable degree of interregional planning has not been accomplished. I am saying simply that there is need for strengthening the safeguards in this particular field.

In approaching the question of what constitutes a desirable degree of specificity in the objectives of a regional project, we need to take a careful look at the projects which now comprise our regional research programs. In so doing, I am sure you will agree that in some cases difficulties have arisen in the prosecution of these projects because they were originally undertaken on entirely too broad a basis. In many instances, this situation can be corrected by reappraisal of the project, and on the basis of experiences

to date, sharpening or limiting the objectives to the extent which will assure rapid attainment of the goals sought. In those cases where it proves desirable to retain a broad approach to certain problems, the solution lies in the developing of more specific subphases so that there is a desirable concentration of effort, always with a clear-cut objective in view. This approach has a definite advantage of permitting the release of information on tangible accomplishments at more frequent intervals, which in a measure will meet the incessant impatience of the general public with the slowness with which research progresses.

This discussion leads directly into the next point of keeping project statements up to date through careful revision and revamping as frequently as circumstances may warrant. Here again, as many of you have experienced, the public, and, more particularly, appropriations committees with State and Federal legislative bodies, frequently charge that research projects seem never to end. The very fact that some projects are established on such a broad basis that literally they never end gives some credence to this accusation. This problem is not new nor is it confined entirely to regional projects, but it is real nonetheless.

The question of how to attain the optimum level of participation in a regional project and finance the activities of those participants in a most satisfactory manner embodies one of the most difficult administrative problems in the whole field of regional research planning. In many instances, it is much more difficult for the representative of an institution on a technical planning committee to refuse to obligate his station to participate in a regional project and thereby waive their rights to any possible allocation of support from the Regional Research Fund, even though he may know that the institution is poorly equipped to enter into such an arrangement, than it is for him to request the opportunity for that station to participate in the regional undertaking. As a result, we frequently find projects with a large number of participants, and, consequently, requests for dividing available funds among these many participants. Too often the final result is that available funds are thus widely disbursed, and in the last analysis none of the participants has received sufficient funds to permit the type of intensive attack which is required for reasonable progress. This situation can be rectified only by the willingness on the part of all institutions to subordinate their individual interests to the interests of the whole region. It means, further, that more careful attention must be given to the potentialities of each institution in the region, so that in the last analysis we have capitalized on the best facilities and capabilities of each without excluding any from a place in certain phases of the overall program. I am sure we have profited greatly from two years' experience in this respect, and already we are experiencing realignments in the participants in various projects, which clearly indicates that interests of various individual institutions are being subordinated to the regional welfare.

The last point which I have listed for discussion, namely, that of timing the planning activity to meet the requirements of present day budgetary procedure, cannot be ignored if we are to be in position to offer concrete evidence of sound advanced planning as a justification for budget requests when we go before committees of the Bureau of the Budget and the appropriation

committees of the Congress. Briefly, it means that we must always be laying plans 12 to 15 months in advance of the time we shall expect to receive appropriations for supporting the work. While many of you may say that this is not feasible, and that economic conditions may change so greatly within such a period as to render advanced planning worthless, the fact remains that that is the basis upon which requests for appropriations must be justified. As applied to the experiment station system, it means that group requests for regional projects must be presented to experiment station directors prior to their spring meetings each year in order that these directors, assembled by regional groups, may establish the order of priority for new projects in ample time to permit technical committees to develop sound plans and budgets essentially 12 months in advance of the time when such appropriations may become available.

In conclusion, I trust that this group will continue to apply its thoughts and efforts to the improvement of procedures whereby we can take fullest advantage of the provisions of the Research and Marketing Act for expanding our regional attack on many important problems confronting our agriculture today. You have pioneered in the field of cooperative research for many years. We are looking to such groups as yours for major improvement in this complex but nonetheless feasible and workable machinery.

(COPY)

ATTACHMENT T

Planning, Reporting, Accounting Procedure, and Notification of Secretary of Agriculture Relative to Federal-Grant Projects Including Those Planned Under Research & Marketing Act

UNITED STATES DEPARTMENT OF AGRICULTURE
Office of Experiment Stations
Washington, D. C.

November 25, 1946

Director R. E. Buchanan
Agricultural Experiment Station
Ames, Iowa

Dear Director Buchanan:

I have read your letters of November 5 and November 18 to the directors with considerable interest. I note that you are pressing the directors to plan their research under the Flannagan-Hope Act as rapidly as circumstances warrant in the light of probable very close questioning by congressional appropriations committees as to what the proposed increased funds under the Flannagan-Hope Act will be used for.

In this connection may I draw your attention again to the hearings on the 1947 Department of Agriculture Appropriation Bill before the House Appropriations Subcommittee, particularly to pages 449-451. You will note the close questioning by Congressman Whitten of the Committee regarding not only the proposed program of research for which increased funds would be used but what is being expended currently on the same general subject matter. We have been warned repeatedly that the new Committee is likely to follow the same line of questioning this year as one of the bases for consideration of increased appropriations not only under the Bankhead-Jones Act but particularly under the Flannagan-Hope Act.

The supplying of such information in detail is obviously something that this Office is not able to do unless the experiment stations cooperate to the very fullest extent. The Committee insisted that we present to them factual information and money figures as to the character and scope and what is being spent on the current research program broken down by subject matter so far as possible, and with figures on estimated expenditures from both Federal-grant funds and funds of non-Federal origin.

During the annual examination of the experiment stations last spring we attempted to gather some of this information so far as our very limited facilities permitted. Frankly, we were able to get from the experiment stations only fragmentary and very unsatisfactory information, and at this writing I am not at all clear as to what sort of information we will be able to present to the House Committee.

It is my considered judgment that, if the experiment stations are to continue to receive the full amount of the current Federal grants for research and the authorizations under the Flannagan-Hope Act, they are rapidly approaching the

stage where it is going to be necessary for them literally to keep accounts of expenditures of Federal-grant funds by projects, so that at the end of each fiscal year they will be able to report to this Office exact figures on the expenditures of Federal-grant funds on each piece of research prosecuted during the year. In view of the attitude of the House Subcommittee last spring, it is likely also that the experiment stations will be asked to have available similar information on all research supported from non-Federal funds. This becomes reasonable when one considers the fact that the Congress, in appropriating funds for the experiment stations, must decide what amounts to appropriate on the basis of what the experiment stations are now doing and what they are now expending from all sources for research.

When consideration was being given to proposed legislation for additional research in cotton, Congressman Pace, who headed the investigating committee, insisted that complete information be placed before the committee on the current research program in cotton, both Federal-grant and State, by amounts of funds. This was a stupendous job and took over three months of activity by this Office. I am certain that it is going to be necessary for this Office to report not only to the committees of Congress but also to the Bureau of the Budget the total expenditures on each research activity by the experiment stations at the end of the fiscal year at least from Federal-grant funds.

In addition, and as you know, we are being warned daily from authoritative sources that in the next presentation of the experiment station budget for grant appropriations it is going to be necessary to make a more tangible statement regarding the contemplated research program than has ever been made before. Certainly the cooperative projects to be supported under the "Regional research fund, Office of Experiment Stations" must necessarily be in very tangible form. I make this statement feeling that your letter of November 18 to the directors is none too strong in that respect, and to emphasize again that the experiment stations must get busy and must extend to this Office a type of cooperation in character and scope which they never before have extended if they expect us to defend their appropriations effectively. This would seem to indicate quite clearly the wisdom of a hearing before the committees of Congress by the directors, which the Committee on Experiment Station Organization and Policy voted on last spring.

I am not only writing this to you as Chairman of the Committee on Experiment Station Organization and Policy but also as Director of the Iowa Experiment Station where the accounting procedure on research is probably more thorough and exact than at any other experiment station. It is my considered judgment that a system just as thorough and just as exact as that at your station must necessarily be adopted by every experiment station in the United States, and very soon.

In addition, may I draw your attention to the action of the Committee on Experiment Station Organization and Policy in requesting the Executive Committee of the Association of Land-Grant Colleges and Universities to present a written request to the Secretary of Agriculture to include the full authorizations of the Flannagan-Hope Act for grants to the States for 1947 and 1948. When I appeared before the Bureau of the Budget in behalf of the current Federal-grant appropriations, I was asked to present evidence that such a request had been made for the final increment of the Bankhead-Jones funds. I was able to do this and, in fact, we included a copy of the written request signed by the Chairman

of the Executive Committee. A similar inquiry was made of me before the Bureau of the Budget on the Flannagan-Hope appropriations, and I was unable to show that the Executive Committee had made a similar written request to the Secretary for these funds. May I suggest that it be an order of business of your Committee to make certain that the resolution of the Committee that such a request be made be carried through, as we are certain to be confronted with a similar inquiry by the House Subcommittee. In this connection, may I refer you to pages 446-449 of the hearings before the House Subcommittee on the 1947 Agricultural Appropriation Bill.

I wish again to emphasize that in my considered judgment we cannot press too strongly for constructive action on the part of the experiment stations, not only on planning for use of the Flannagan-Hope funds but on revising accounting procedure, particularly for Federal-grant research funds, which will present at the end of the fiscal year every tangible information on exactly what research costs. I feel that with your vast knowledge and experience along this line you may well present this to the directors. I talked with Dr. Stewart of your staff a few minutes last Friday and he took some minutes along this line which he will present to you. We are proceeding to assist him so far as possible in connection with acquirement of research facilities at the new farm at Ankeny.

Very truly yours,

/s/ R. W. Trullinger
Chief, Office of Experiment Stations

(C O P Y)

ATTACHMENT U

UNITED STATES DEPARTMENT OF AGRICULTURE
Office of the Secretary
Washington 25, D.C.

March 19, 1947

MEMORANDUM No. 1187

Coordination of Research Activities of the Department

The Agricultural Research Administrator, in addition to authorities heretofore conferred upon him, is hereby authorized and directed to coordinate all research activities (other than economic research) of the various agencies of the Department of Agriculture and, in carrying out this responsibility, shall (1) examine all current and contemplated research activities of such agencies, (2) review and approve all research proposals or projects prior to their initiation, (3) advise and consult with the heads of the agencies concerning the planning of research projects and programs, and (4) make reports and recommendations to the Secretary of Agriculture regarding the research activities of the various agencies of the Department. The heads of agencies shall submit to the Agricultural Research Administrator such proposals, reports, and other information as he may request.

All previous memoranda or orders, or parts thereof, which are inconsistent with the provisions of this memorandum are superseded.

Clinton P. Anderson

Secretary

(C O P Y)

ATTACHMENT V

UNITED STATES DEPARTMENT OF AGRICULTURE
Office of the Secretary
Washington 25, D. C.

July 1, 1947

MEMORANDUM NO. 1197

Designation of Agencies to Administer Functions Transferred to the Secretary of Agriculture under Section 301 of Part III of Reorganization Plan No. 1 of 1947

Pursuant to the authority vested in me by Section 301 of Part III of Reorganization Plan No. 1 of 1947, effective July 1, 1947, under the Reorganization Act of 1945 (Public Law 263 - 79th Congress), the functions transferred therein to the Secretary of Agriculture are vested in an Agricultural Research Administration which is hereby established, and shall be administered, through the following bureaus and offices, under the direction and supervision of an Administrator: The Bureau of Animal Industry, the Bureau of Dairy Industry, the Bureau of Plant Industry, Soils and Agricultural Engineering, the Bureau of Entomology and Plant Quarantine, the Bureau of Agricultural and Industrial Chemistry, the Bureau of Human Nutrition and Home Economics, the Office of Experiment Stations, the Agricultural Research Center, and the Office of Agricultural Research Research Administrator.

The Agricultural Research Administration created hereunder shall have the same organization, personnel and functions and shall exercise the same authorizations and delegations as the Agricultural Research Administration established in accordance with Part III of Secretary's Memorandum 960 of December 13, 1941, as amended and supplemented, and Executive Order 9069, February 23, 1942 (7 F. R. 1409).

The provisions of this order shall become effective July 1, 1947.

Clinton P. Anderson

Secretary

(C O P Y)

ATTACHMENT W

UNITED STATES DEPARTMENT OF AGRICULTURE
Office of the Secretary
Washington 25, D. C.

July 29, 1949

MEMORANDUM NO. 1237

Administration of the Research and Marketing Act

The Agricultural Research Administrator, in addition to authorities heretofore conferred upon him (1 AR 120), is authorized and directed, effective July 30, 1949, to administer the Research and Marketing Act, and to take such action as may be necessary or appropriate to the carrying out of this responsibility.

As of such effective date, all funds, records, facilities, and personnel of the Office of the Administrator, Research and Marketing Act, shall be transferred to the Research Administrator.

The heads of agencies shall submit to the Agricultural Research Administrator such proposals, reports, and other information as he may request.

Secretary's Memorandum No. 1199, issued July 18, 1947, is superseded, effective July 30, 1949; however, regulations, procedures, delegations of authority, and similar instruments heretofore issued or approved by the Administrator of the Research and Marketing Act shall continue in full force and effect unless and until withdrawn or superseded by action of the Agricultural Research Administrator.

/s/ Charles F. Brannan
Secretary